

SONY

KVA2921

MODEL

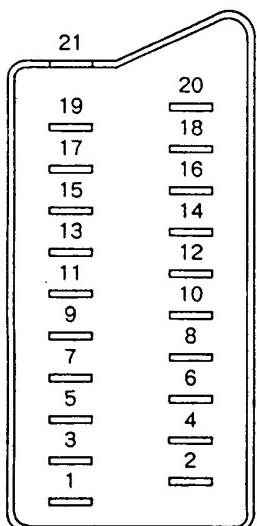
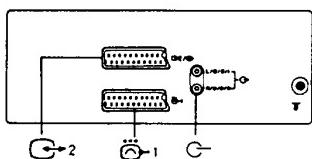
SERVICE MANUAL

[RM-816]

Remote control system	infrared control
Power requirements	3V dc
	2 batteries IEC designation R6 (size AA)
Dimensions	Approx. 75×221×23mm(w/h/d)
Weight	Approx. 230g (including batters)
Accessories supplied	IEC designation R6 batteries (2)
Supplied accessories	RM-816 Remote Commander (1) IEC designation R6 batteries (2)

Design and specifications are subject to change without notice.

21 pin connector (Pin 1, Pin 2)



Pin No.	1	2	Signal	Signal level
1	○	○	Audio output B (right)	Standard level: 0.5Vrms Output impedance: Less than 1kohm*
2	○	○	Audio input B (right)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
3	○	○	Audio output A (left)	Standard level: 0.5Vrms Output impedance: Less than 1kohm*
4	○	○	Ground (audio)	
5	○	○	Ground (blue)	
6	○	○	Audio input A (left)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
7	○	●	Blue input	0.7V ± 3dB, 75ohms, positive
8	○	○	Function select (AV control)	High state (9.5 – 12V): Part mode Low state (0 – 2V): TV mode Input impedance: More than 10kohms Input capacitance: Less than 2 nF
9	○	○	Ground (green)	
10	○	○	Open	
11	○	●	Green	Green signal: 0.7V ± 3dB, 75ohms, positive
12	○	○	Open	
13	○	○	Ground (red)	
14	○	○	Ground (blanking)	
15	○	—	Red input	0.7V ± 3dB, 75ohms, positive
	—	○	(S signal) croma input	0.3V ± 3dB, 75ohms, positive
16	○	●	Blanking input (Ys signal)	High state (1 – 3V) Low state (0 – 0.4V) Input impedance: 75ohms
17	○	○	Ground (video output)	
18	○	○	Ground (video input)	
19	○	○	Video output	1V ± 3dB, 75ohms, positive Sync: 0.3V (-3, +10dB)
20	○	—	Video input	1V ± 3dB, 75ohms, positive Sync: 0.3V (-3, +10dB)
	—	○	Video Input/Y (S signal)	1V ± 3dB, 75ohms, positive Sync: 0.3V (-3, +10dB)
21	○	○	Common ground (plug, shield)	

○ connected ● unconnected (open)

* at 20Hz – 20kHz

4 pin connector (Pin 2)

Pin No.	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB, 75ohms, positive Sync: 0.3V (-3, +10dB)
4	C (S signal) Input	0.3V ± 3dB, 75ohms, positive

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
1. GENERAL			4. CIRCUIT ADJUSTMENTS		
1-1. Turning the TV Unit On and Off	4		4-1. A Board Adjustments	18	
1-2. TV Channel Presetting	4		4-2. B1 Board Adjustments	18	
1-3. Basic Functions	6		4-3. D Board Adjustments	19	
1-4. Special Functions	7		4-4. J1 Board Adjustments	20	
1-5. Use of the Teletext Service	7		4-5. V Board Adjustments	20	
1-6. Connections and Optional Functions	9		4-6. Secondary Adjustments	21	
1-7. General Information	10				
2. DISASSEMBLY			5. DIAGRAMS		
2-1. Rear Cover Removal	11		5-1. Block Diagram	23	
2-2. Chassis Assembly Removal	11		5-2. Circuit Boards Location	27	
2-3. A and J1 Boards Removal	11		5-3. Schematic Diagrams and Printed Wiring Boards	27	
2-4. B1 Board Removal	12		5-4. Semiconductors	59	
2-5. Service Position	12				
2-6. Picture Tube Removal	13				
3. SET-UP ADJUSTMENTS			6. EXPLODED VIEWS		
3-1. Beam Landing	14		6-1. Chassis	61	
3-2. Convergence	15		6-2. Picture Tube	62	
3-3. Focus	17				
3-4. Screen (G2) and White Balance	17		7. ELECTRICAL PARTS LIST	63	

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK Δ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MARQUE Δ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIÈCES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÈCE EST INDICUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY.

CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

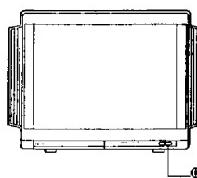
ATTENTION

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURTCIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTÉ SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

SECTION 1 GENERAL

1-1. TURNING THE TV UNIT ON AND OFF

After you have completed the basic preparation your TV is ready to be connected to the mains power supply (220/240V~, 50Hz).

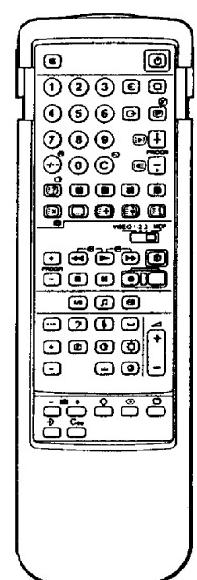


Turning the TV unit ON

Action	Result
1 Press on the TV.	The TV will turn on. Note: If the screen remains blank, the TV may be in the standby mode. Press to switch it on.

Turning the TV unit OFF

A Temporarily	
Press to enter the standby mode.	The TV will be in the standby mode. To return to the TV mode press .
B Completely	
Press on the TV set.	The TV will be turned off.



1-2. TV CHANNEL PRESETTING

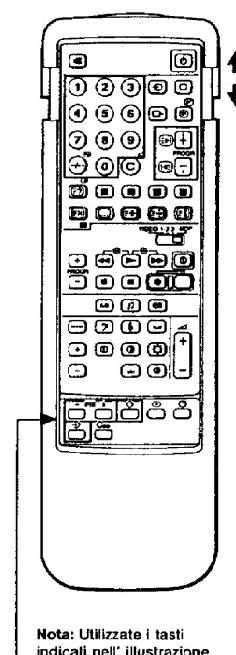
After installing the TV set, TV channels must be preset.

TV broadcasting stations broadcast their programmes on certain fixed frequencies (channels). In order to receive these programmes it is necessary to search for the relevant broadcasting station and to set record it as a channel. The "programme number" is the number that the user decides to associate with a certain channel.

For channel settings there are 60 positions available in the memory. In this way all stations broadcasting within the user's country can be received and recorded as a channel.

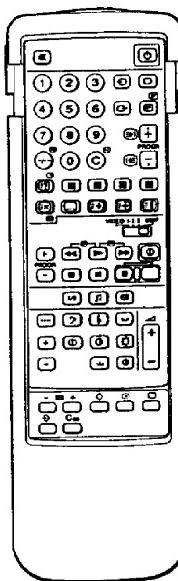
TV channels automatic presetting

If you are unfamiliar with the transmission frequency of the channels you wish to preset, refer to the section "TV channels automatic presetting". However, if you want to tune them using the frequency of each channel, go to the section "Direct TV channel setting".
To select a button on the "complete" side, take out the remote control unit from its case to reveal the preset buttons, as shown in the illustration.

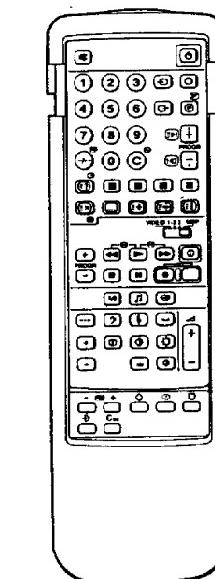


Nota: Utilizzare i tasti indicati nell' illustrazione solo quando preselezionate canali.

Operation	Result
1 Press to begin the preselection.	The programme number flashes.
2 Press PROGR + / - or the remote control unit number buttons to select the channel number to which you want to preset the station.	The programme number on the screen changes.
NOTE: To select a 2-figure number press the +/- button. E.g., if you wish to select number 23, press +/- first, and then 2 and 3.	
3 To search for broadcasting stations press + and - buttons.	When a broadcasting station is tuned correctly, the search will stop. If you want to skip it, press + or - again.
4 Press to memorize the channel to that which the broadcasting station is tuned.	All data disappears from the screen.
5 To memorize other broadcasting stations repeat steps from 1 to 4.	

**Direct TV channel setting**

Operation	Result
1 Press \rightarrow to begin the presetting.	The programme number begins to flash on the screen.
2 Press PROGR + / - or the number buttons on the remote control unit to select the channel number to which you want to preset the station.	The programme number on the screen changes.
Note: To select a 2-figure number press $/-$ button. E.g., if you wish to select number 23, press $/-$ first, and then 2 and 3.	
3 Press C. If you wish to select a cable station, press C twice.	Indication "C-" ("S-" for cable stations) flashes on the screen.
4 By using the number buttons of the remote control unit select the channel number, always with two figures (for "4" press "04"). Note: Press the second number within 5 seconds of the first. After 5 seconds the operation is cancelled.	The channel number changes on the screen. Note: In case of mistake, the "X" letter appears on the screen. Repeat once more the operation of step 4.
5 Press \diamond to memorize the channel to which the station is tuned.	All indications disappear from the screen.
To memorize other broadcasting stations repeat the above procedure.	

**Broadcasting station identification**

By associating a name with a certain broadcasting station it is possible to avoid having to remember, each time, in which channel number that particular station has been memorized.

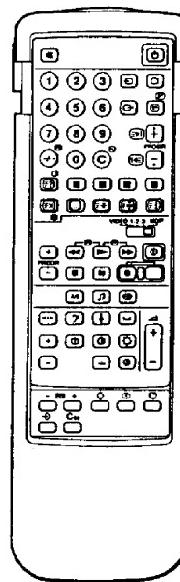
Five different characters are available for station identification.

Operation	Result
1 By using PROGR + or - or the number keys of the remote control unit, select the programme number to be set for identification.	The programme number to be set for identification appears on the screen.
2 Press \rightarrow	The number flashes on the screen.
3 Press \diamond	The first indication line flashes on the screen.
4 Press the + or - buttons to select a letter of the alphabet, a number, or a blank space.	Alphabetic letters, numbers or a blank space ("-") appear on the screen, in that order.
5 Press \diamond	In this way the first character has been set, and the following position now flashes on the screen.
6 Repeat steps 4 and 5, and fill all five available spaces.	
7 Press \diamond .	All indications disappear from the screen, except the programme number. All indications remaining on the screen have been memorized.

Temporary channel tuning

It is possible to temporarily memorize a channel, even if it has not been preset.

Operation	Result
1 Press C. Press C twice for a cable station.	"C" ("S" for cable stations) indication appears on the screen.
2 Using the number keys or the remote control unit select the channel number, always with two figures (e.g., "04" for channel "4").	The channel will be received, but it will not be set as a programme number.



Skipping channels

Using the PROGR +/- buttons you can skip unused programme numbers. However, the skipped numbers may still be called up using the number buttons.

Operation	Result
1 Press \rightarrow to begin presetting.	The programme number begins to flash on the screen.
2 By using the PROGR + and - buttons, or the number keys of the remote control unit, select the programme number you wish to skip.	The programme number changes.
3 Press Coo .	Under the programme number, the lowest channel number appears.
4 Press \diamond .	All indications under the programme number disappear from the screen. The skipped programme number will be memorized.

Manual fine tuning

If the picture is not perfect, it is possible to fine tune it manually.

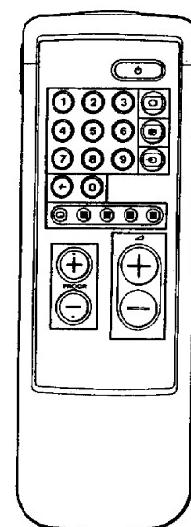
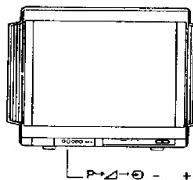
Operation	Result
Press $\text{BB} +$ or $-$ repeatedly until the picture is at the optimum.	The indication $--F--$ appears on the screen.
Press \rightarrow to start preselection.	The programme number starts flashing on the screen.
Press \diamond .	Manual fine tuning has been memorized.

Note: Manual fine tuning will be reset when the channel is selected again.

1-3. BASIC FUNCTIONS

Per aprirlo premete sula freccia: (\downarrow)

This section introduces you to the basic control functions which are available on the "simple" side of the remote control unit.



Programme selection

Before selecting programmes make sure that TV channels have been memorized.

Operation	Result
Press PROGR +/- buttons or the number keys of the remote control unit. To select a 2-figure number press \rightarrow button. E.g., if you wish to select number 23, press \rightarrow first, and then 2 and 3.	The selected programme number appears on the screen.

Volume control

Operation	Result
Press $\triangle +$ or $-$.	The volume indication appears on the screen.

Use of additional functions

Use of other functions with the TV set buttons

It is also possible to select programmes and to adjust the volume by using $P \rightarrow \downarrow \rightarrow \oplus$ and $\rightarrow \leftarrow \oplus$ or $-$ buttons, located on the front panel of the TV set. In this case, press first $P \rightarrow \downarrow \rightarrow \oplus$ until the indication P (channel) or \triangle (volume) appears on the screen, and then press $\rightarrow \leftarrow \oplus$ or $-$ buttons.

Use of teletext service

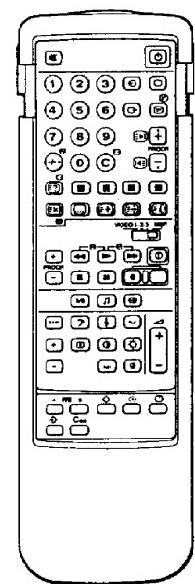
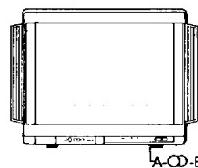
Press O . To return to the TV mode, press C . For further information on the teletext service

Selection of the video input

Press C . To return to the TV mode, press O . For further details,

1-4. SPECIAL FUNCTIONS

This section explains the use of functions for adjusting pictures and sound.
Use the "complete" side of the remote control unit.



Use of special functions

The following functions can be used.

Function	Operation	Reset
Indication display	Press C	Press C again.
Sound muting	Press D	Press D again.
Language selection for bilingual programmes.	Press A/B . The selected language is displayed by the relevant indication on the screen.	Press A/B .
Sound adjustment for music programmes.	Press J	Press J again.
Use of special sound effects.	Press K	Press K again.
Time display (only during teletext broadcasting).	Press L	Press L again.

Picture and sound adjustment

Although the picture and sound have been adjusted at the factory, you might want to adjust them to your own taste. To do this, please follow the steps below.

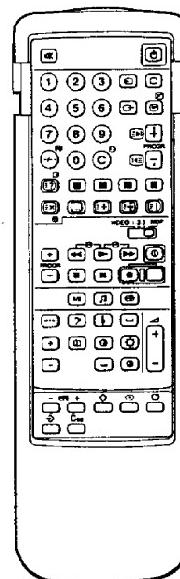
To Adjust	Press:	Then:	Result: (+ ↔ -)
Picture:			
Colour intensity	○	[+]	More ↔ Less
Contrast	○		More ↔ Less
Brightness	○	[-]	Bright ↔ Dark
Hue (for NTSC only)	○		Reddish ↔ Greenish
Sharpness	○	[+]	More ↔ Less
Sound:			
Bass	○	[+]	More ↔ Less
Treble	○	[+]	More ↔ Less
Balance	○	[-]	Left ↔ Right

To reset the picture and sound to factory set levels, press **→←+-**.

On the set: Press the **→←** and **+-** buttons simultaneously.

1-5. USE OF THE TELETEXT SERVICE

Through the teletext service a great deal of information can be received at any time. Broadcasting stations make this service available through TV broadcasts. To use the teletext service, use the green keys on the "complete" side of the remote control unit. When the "simple" side of the remote control unit is used, only the basic functions are available.



How to display teletext service

Operation	Result
1 Select the channel you want to watch.	The channel changes on the screen.
2 Press □	If there is no teletext signal, the indication "Page 100" appears on the screen.
3 Use the number keys of the remote control unit to insert the three figures corresponding to the desired teletext page. Note: In case of a mistake, press any three numbers, and then repeat the operation with the correct numbers.	The selected page number appears on the screen. After a few seconds, the selected page appears on the screen.
To return to normal TV programmes: Press C .	
To change teletext channel: First press C to return to the TV mode, and then repeat steps 1 to 3.	

Note: A weak TV signal may cause trouble in the use of teletext.

Use of special teletext functions

Required function	Operation	Result (on the screen)
Page index required.	Press □ (INDEX) .	Page index appears.
Sub-pages required (page 888).	Press □ .	The sub-page appears (page 888).
Access to previous or following pages.	Press □ (PAGE +) or □ (PAGE -) .	P201 The preceding or the following page appears.

Required function	Operation	Result (on the screen)
Superimposition of the teletext on the TV programme.	In the TV mode, press $\textcircled{2}$ twice. To return to the normal teletext function press $\textcircled{2}$ again.	 Teletext information will appear superimposed on the TV programme.
To prevent page changes due to page updating.	Press $\textcircled{2}$ (STILL). Press $\textcircled{2}$ (TXT/MIX) to return to the normal function.	 The $\textcircled{2}$ (STILL) symbol appears on the screen.
Magnification of teletext characters.	Press $\textcircled{2}$ once to magnify the upper half of the screen. Press twice to magnify the lower half of the screen. By pressing the button three times the normal vision is restored.	 The upper or the lower half of the page is magnified.
Display of hidden information (answers to quizzes, etc.).	Press $\textcircled{2}$ (RIV). Press again to hide the answers.	 The information is displayed.
Watching a programme while the teletext searches for the required page.	1. Ask again for the page. 2. Press $\textcircled{2}$ 3. When the required page has been found, the page number will be displayed. 4. Press $\textcircled{2}$ to display the page.	The number is displayed. TV programme is displayed.  The desired page will be displayed.
Display of a page at a preset time.	1. Request the page. 2. Press $\textcircled{2}$ (MEM.T). 3. Set the required time by using the number keys, and by inputting four figures (e.g. 0730 for "7:30").	The selected page will be displayed. In the lower part of the screen the indication "P****" appears. The required time is displayed on the screen.
	To watch TV programmes until a preset time Press $\textcircled{2}$ (CANC.). At the required time, the selected page appears in the upper part of the screen. Press $\textcircled{2}$ to display the page. To cancel the request Display the teletext page and then press $\textcircled{2}$ (CANC.M.).	

Note: Depending on the teletext service, certain functions may not be available.

Use of the FASTEXT function

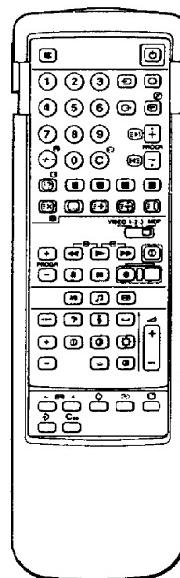
The FASTEXT function allows rapid access, at the touch of a single button, to the teletext functions. In the lower part of the screen, a colour coded index will be displayed when a FASTEXT teletext page is broadcasted. Each colour corresponds to the colored keys on the remote control unit.

Operation

Operation	Result
Press one of the coloured keys on the remote control unit corresponding to the coloured indications of the FASTEXT teletext page.	The selected teletext page appears on the screen.

Note:

The correct use of the FASTEXT function depends on the signal being broadcast by the TV stations. Some TV stations may not broadcast FASTEXT teletext signal.



1-6. CONNECTIONS AND OPTIONAL FUNCTIONS

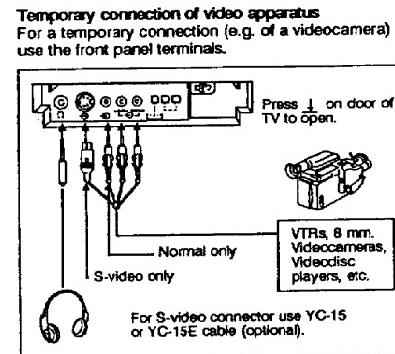
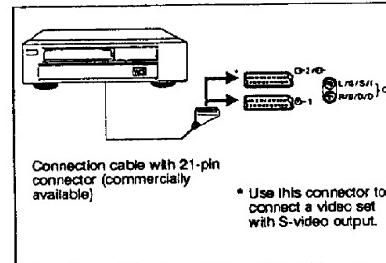
This TV set may be connected to other audio/video machines, such as videocameras, VTRs, videodisc players, or stereo systems.

Connection to an external audio/video system

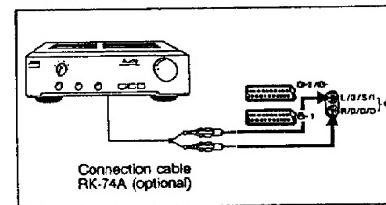
This TV set incorporates three groups of connectors, for input and output to the TV signal. Each group has the following characteristics:

Connector	Input signal	Output signal
Ø-1	Normal audio/video signal or RGB signal	TV tuner audio/video signal
Ø-2/Ø-	Normal audio/video signal and S-video signal	Audio/video signal from a selectable source
-Ø, Ø, -Ø front panel	Normal audio/video signal and S-video signal	No signal

Connection of a TV set



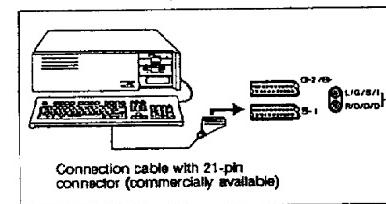
Connection of an audio unit



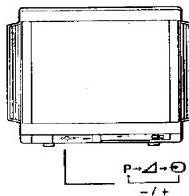
Connection of a videotape recorder through the **T connector**
Connect the antenna input (AERIAL-IN) of the TV set to the antenna output (AERIAL-OUT) of the videotape recorder.

S-video input (Y/C input)
The video signal is formed by two separate signals: the luminance (Y) and the chrominance (C). Through the separation of the two signals it is possible to improve picture quality (luminance in particular), preventing reciprocal interference. This TV set features two S-video sockets able to directly receive this type of signal.

Connection to a computer with RGB output



Pictures with distortion
Move the TV set away from the videotape recorder if pictures or sound become distorted.



Video programme playback

Using the input selector, pictures coming from a videotape recorder connected to the TV sets input may be played back.

Operation

Operation	Result
Select the desired video input by pressing Ø repeatedly.	
Press Ø button to return to TV mode.	The symbol of the selected input appears on the screen (see table below).

Selectable inputs

Symbol	Selected input
Ø 1	Audio/video signal from Ø-1 connector.
-Ø	RGB signal from Ø-1 connector.
Ø 2	Audio/video signal from Ø-2/Ø- connector.
-Ø 2	S-video signal (from a VTR with S-video output) from Ø-2/Ø- connector.
Ø 3	Audio/video signal from Ø, -Ø connector located on the front panel.
-Ø 3	S-video signal from S-video -Ø (4 pin) connector located on the front panel.

Input can be selected also with the **P->/->** buttons of the TV set.
In this case, first select **Ø**, and then press the **+-** buttons to select the desired input.

Selection of video output

The Ø-2/Ø- connector may output 4 video signals. Select the outgoing video signal in the following way.

Operation

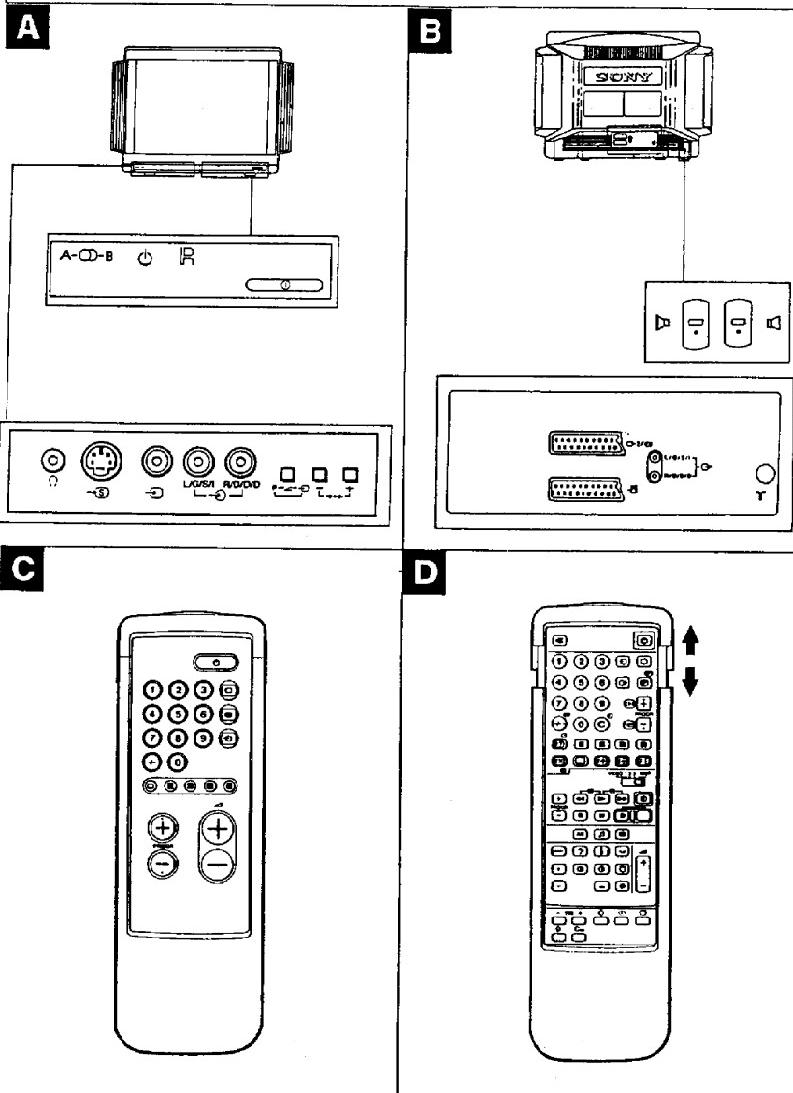
Operation	Result
Press Ø repeatedly to select the desired video output.	

Output signal

Symbol	Selected output
1 Ø	Audio/video signal from Ø-1 connector.
2 Ø	Audio/video signal from Ø-2/Ø- connector.
3 Ø	Audio/video signal from Ø and -Ø connectors.
TV Ø	Audio/video signal from T-type antenna connector T .

1-7. GENERAL INFORMATION

Components identification



This section briefly describes controls of the TV set and the remote control unit, and their relevant functions.

A TV set front panel	
Indication	Description
①	Power switch
②	Standby switch
A - ③ - B	Bilingual function indications
④	Headphones connector (stereo mini-jack)
⑤ ⑥ ⑦	Input connectors (S-video/video/audio)
P → ⑧ → ⑨	Function selector (programme/volume/input)
- +	Function adjustment keys

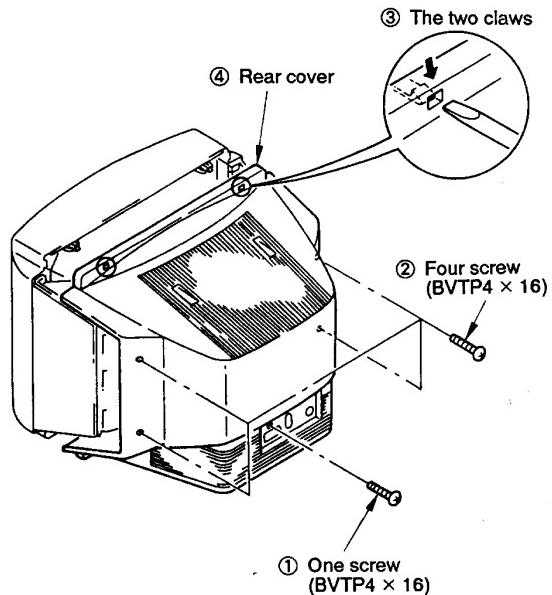
B TV set rear panel	
Indication	Description
	Speaker connectors (upper: left speaker, lower: right speaker)
	Connector 2, Euro AV (SCART, 21-pin). S-video In/video In/TV/video out signals.
	Connector 1, Euro AV (SCART, 21-pin). RGB In/video In/TV/out signals.
	Audio output connectors (RCA pin)
	Antenna connector (of IEC standard)

C	Remote control unit — simplified side
Indication	Description
	Input selector
	Teletext service key
	FASTEXT operation buttons
	TV set power switch and TV mode selector
	Standby key
1,2,3,4,5, 6,7,8,9,0	Number keys
--	Channel selection key/ 2-figure programmes
	Volume adjustment key
PROGR +/-	Programme selection key

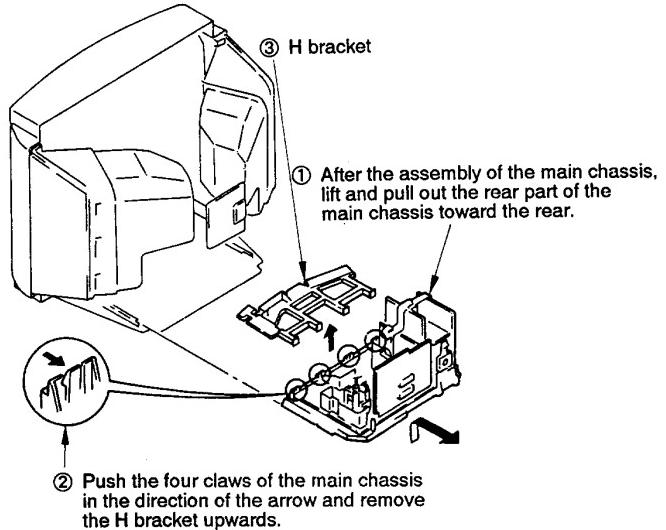
D Remote control unit — complete side	
Indication	Description
	Sound muting key
	Standby key
1,2,3,4,5, 6,7,8,9,0	Number keys
	Input selector
	TV set power switch and TV mode selector
	Output selector
	Teletext key
	Music programme key
A/B	Bilingual programmes language selection
	Channel selection key/2-figure programmes
C	Channel direct selection key
	Special sound effect key
	Time display
	Teletext operation keys
	FASTEXT operation buttons
	Display key
	Reset key
	Volume adjustment keys
PROGR +/—	Programme selection keys
	Image and audio adjustment keys
VIDEO 1/2/3, MDP	Video unit selector
	Video units function key
	Programme cancelling key
	Channel presetting key
	Channel tuning keys
	Channel storing keys
	Broadcasting stations identification key

SECTION 2 DISASSEMBLY

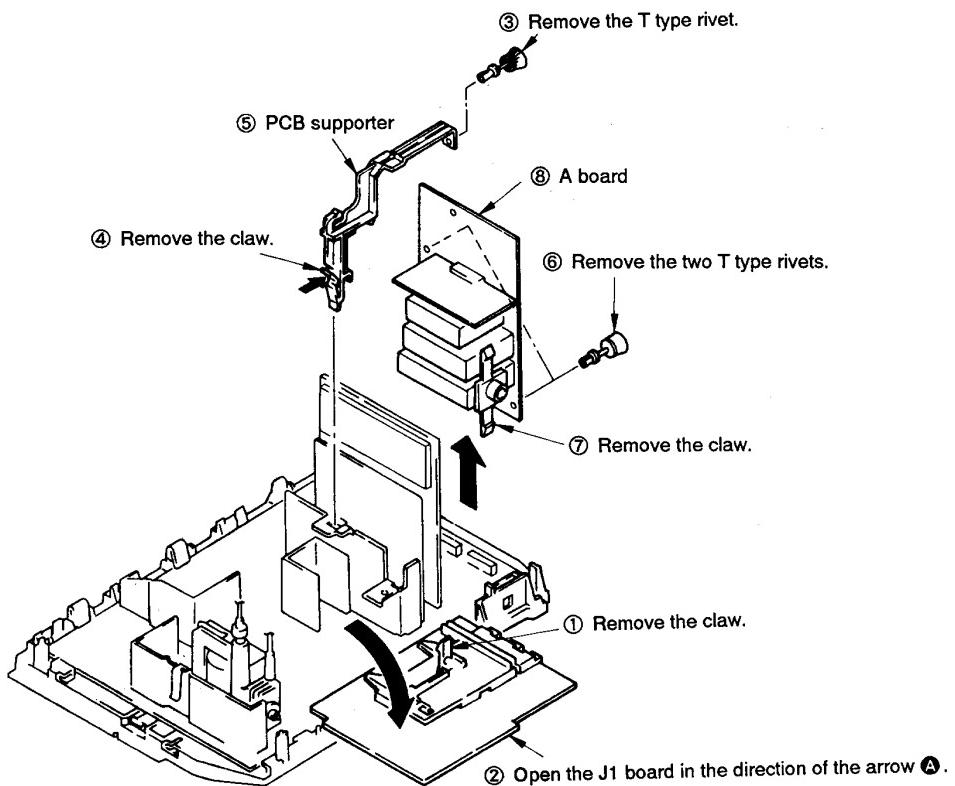
2-1. REAR COVER REMOVAL



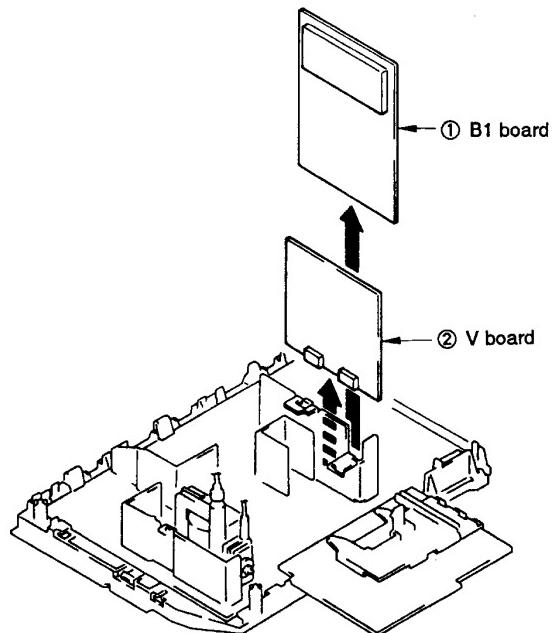
2-2. CHASSIS ASSEMBLY REMOVAL



2-3. A AND J1 BOARDS REMOVAL

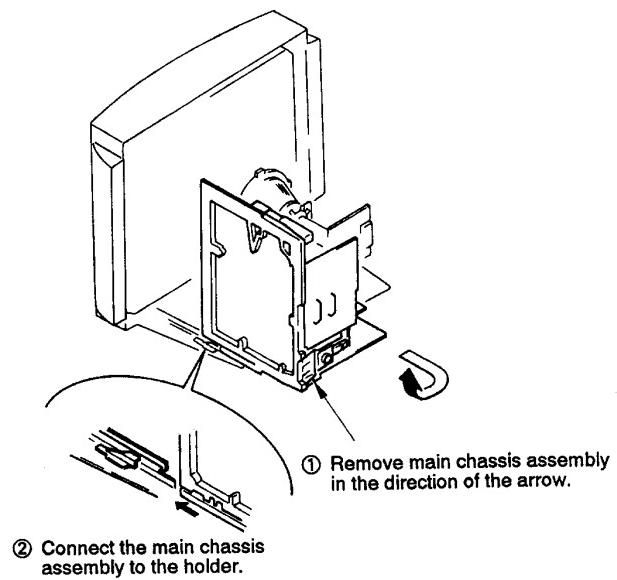


2-4. B1 AND V BOARDS REMOVAL

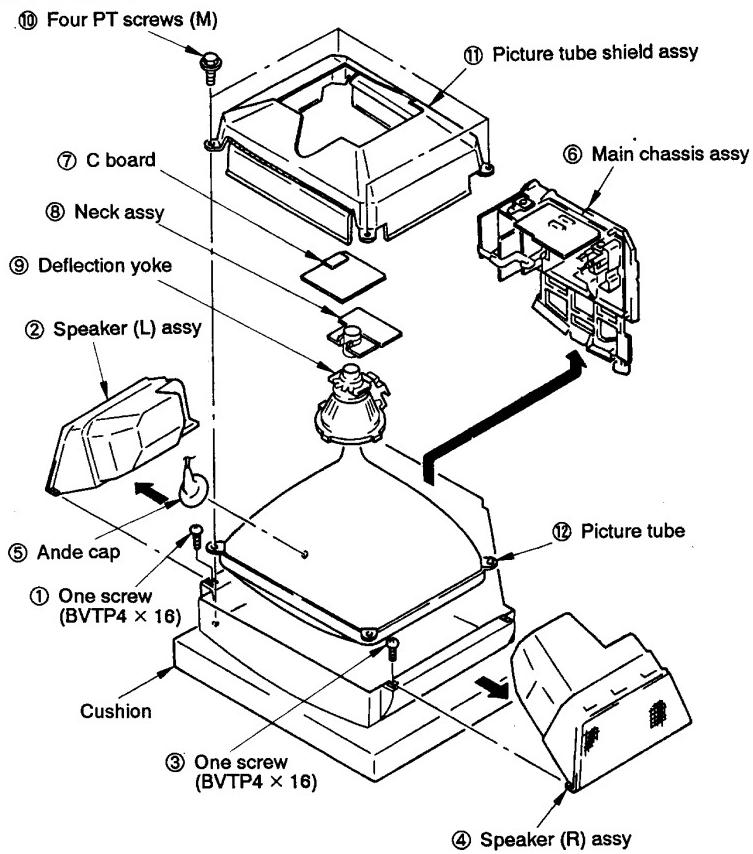


2-5. SERVICE POSITION

* Remove the H bracket from the main assembly
and then perform the following servicing.



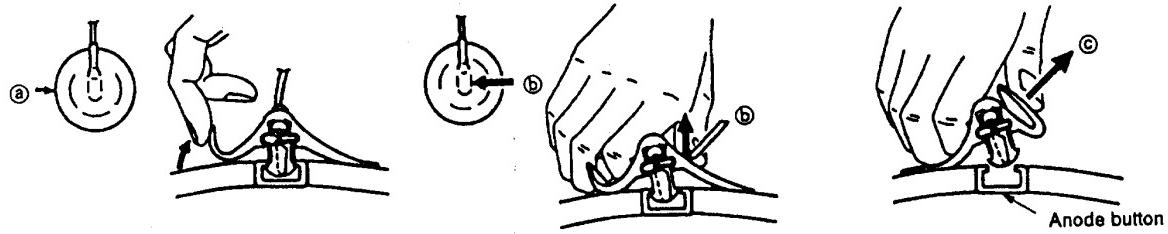
2-6. PICTURE TUBE REMOVAL



• REMOVAL OF ANODE-CAP

Note: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield, or carbon painted on the CRT, after removing the anode.

• REMOVING PROCEDURES



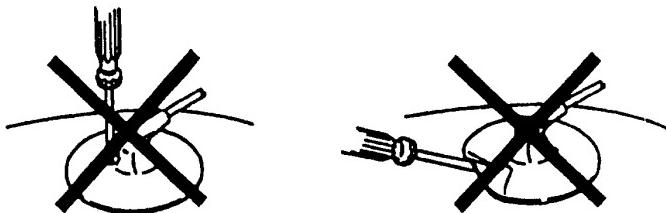
① Turn up one side of the rubber cap in the direction indicated by the arrow ②.

② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ④.

③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⑤.

• HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.



SECTION 3

SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there is specific instruction to the contrary, carry out these adjustments with the rated power supply.
- Unless there is specific instruction to the contrary, set the controls and switches this way :
 - Contrast 80%
 - (or remote control normal)
 - Brightness 50%

- Carry out the following adjustments in this order:

1. Beam landing
2. Convergence
3. Focus
4. White balance

Note: Testing equipment required

1. Color bar/pattern generator
2. Degausser
3. DC power supply
4. Digital multimeter
5. Oscilloscope

Preparations :

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
Contrast
Brightness } normal
2. Position neck ass'y as shown in Fig 3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side.
(See Figures 3-1 through 3-3.)
5. Move the deflection yoke forward and adjust so that entire screen is red. (See Figure 3-1.)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it.
(See Figure 3-4.)

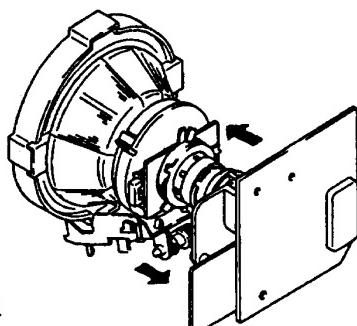


Fig. 3-1

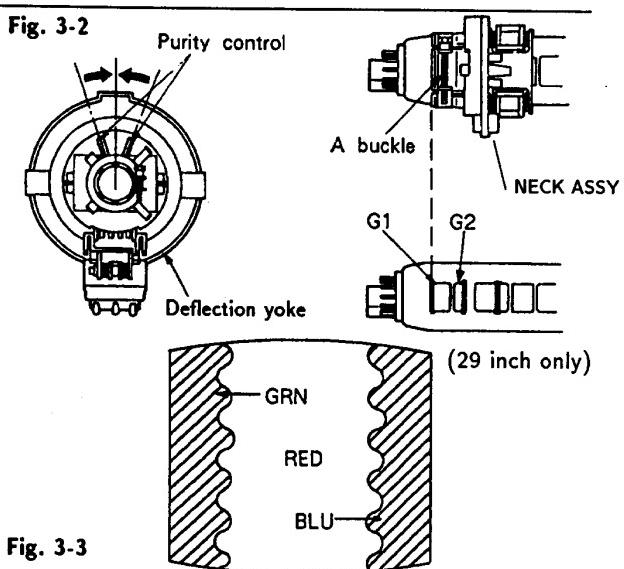


Fig. 3-3

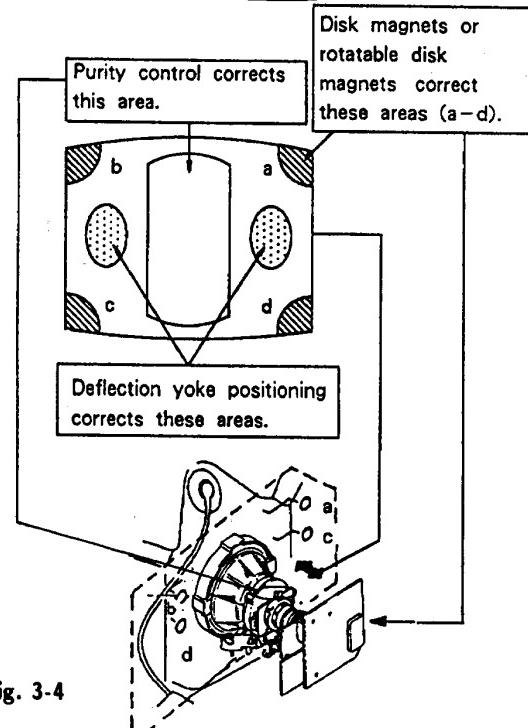


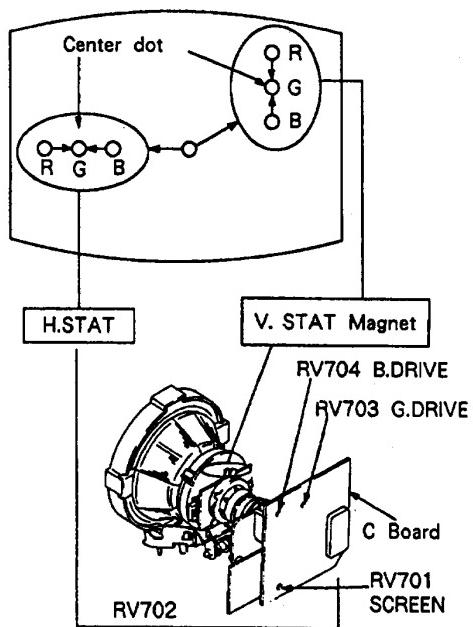
Fig. 3-4

3-2. CONVERGENCE

Preparations :

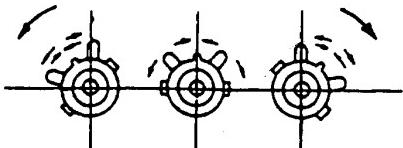
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) Horizontal and vertical static convergence

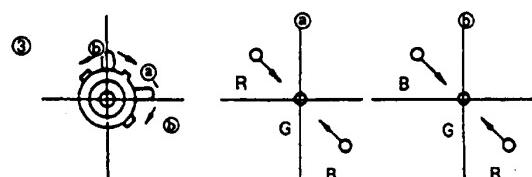
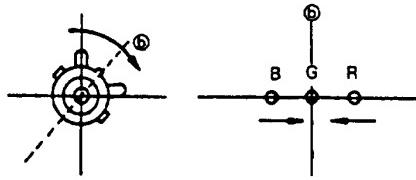
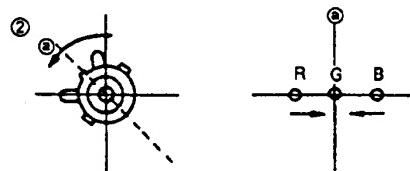
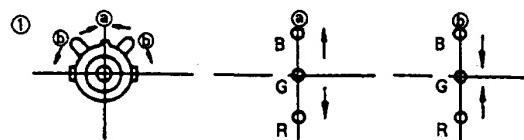


1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V. STAT magnet in the manner given below.
(In this case, the H.STAT variable resistor and the V. STAT magnet influence each other)

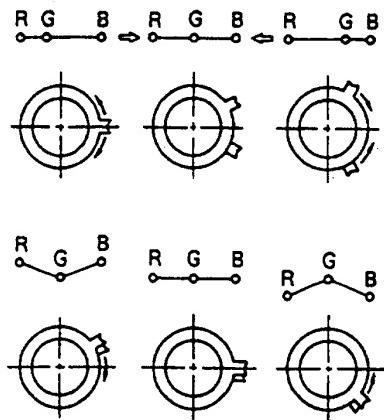
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



4. If the V. STAT magnet is moved in the direction of the ④ and ⑤ arrows, the red, green, and blue points move as shown below.

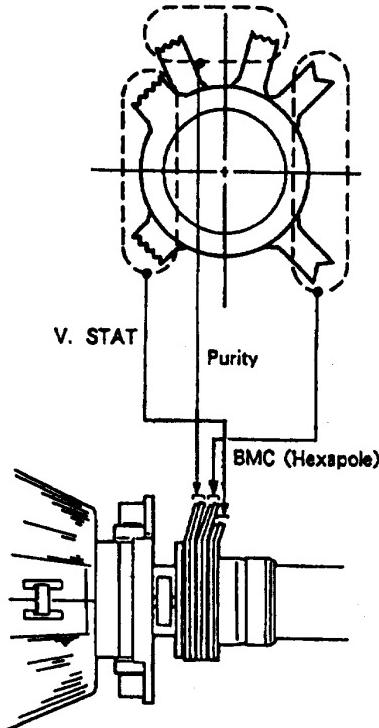


- Operation of BMC (Hexapole) Magnet



- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.

Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).



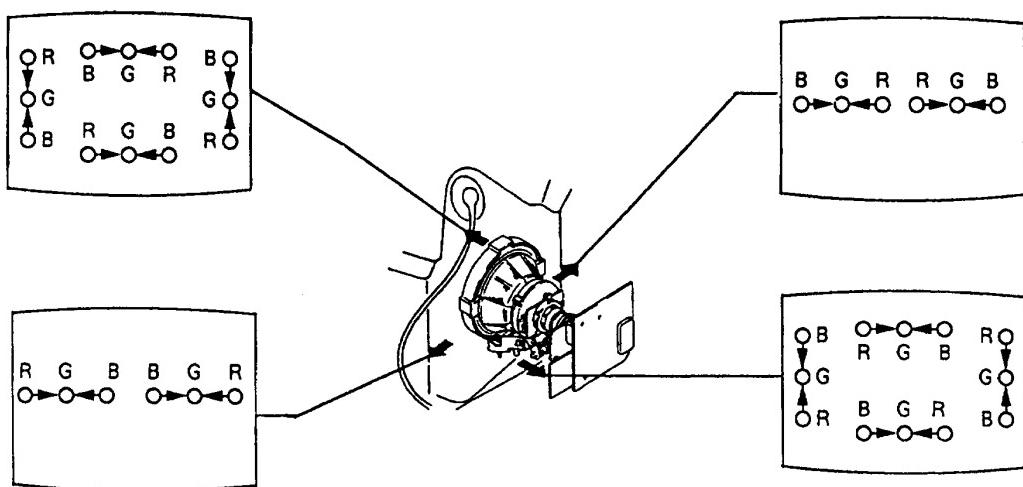
(2) Dynamic convergence adjustment

Preparations :

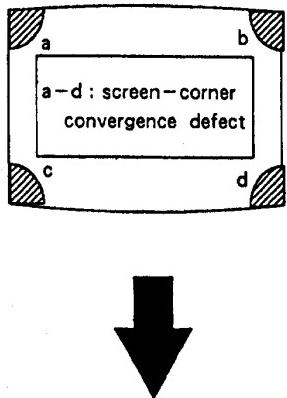
Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.

3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the deflection yoke spacer.

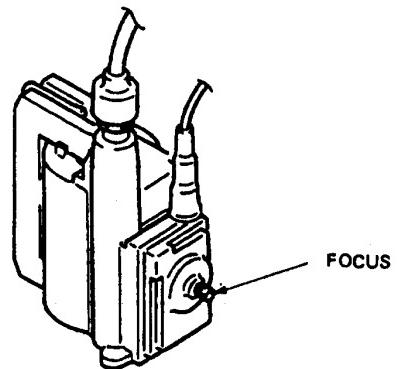


(3) Screen corner convergence

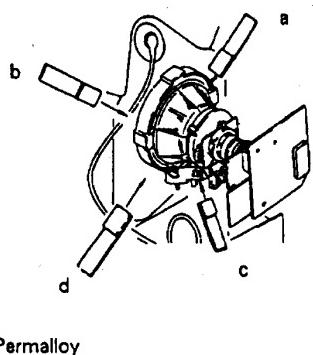


3-3. FOCUS

Adjust the focus to optimize the screen.



Install the permalloy assembly for the section with faulty.



3-4. WHITE BALANCE

[Screen G2 setting]

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 170V DC to the R, G, and B cathodes with an external power supply.
4. While watching the picture, adjust G2 control RV701 (Screen) to the point just before the return lines disappear.

[White balance adjustment]

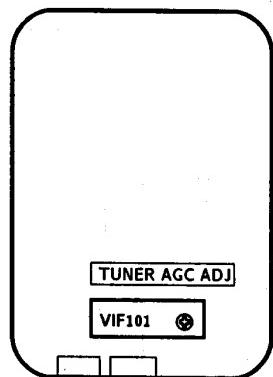
1. Input an all-white signal from the pattern generator.
2. Set the picture brightness and color controls to their normal levels.
3. Use the RV704 (B Drive) and RV703 (G Drive) to adjust white balance.

In the adjustments below, have the picture color and brightness settings at their normal levels unless there is a specific instruction to the contrary.

SECTION 4

CIRCUIT ADJUSTMENTS

4-1. A BOARD ADJUSTMENTS

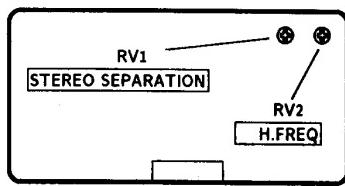


A BOARD (COMPONENT SIDE)

TUNER AGC ADJUSTMENT (AGC VR)

1. Align with an appropriate signal between stations.
2. Adjust AGC VR so that snow noise and cross modulation just disappear from the picture.

IFG5.5S SIF



IFG5.5S SIF -component side-

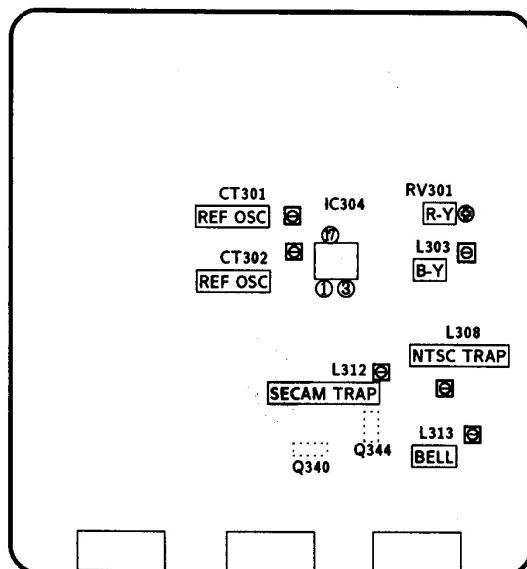
STEREO SEPALATION ADJUSTMENT (RV1)

1. Input stereo signals. (L-CH 400Hz, R-CH 1KHz)
2. Check the stereo indicator.
3. Connect on oscilloscope to pin⑧ (CH1) of CN1 through band pass filter of 1KHz
4. Adjust RV1 so that 1KHz voltage goes down to the minimum.

H FREQ (RV2)

1. Input a PAL COLOR BAR signal, then connect a jumper between pin⑫ IC4 and GND.
2. Connect a frequency counter to pin④ IFG5.5S (HP) of CN1 through a probe of 10 : 1.
3. Adjust RV2 (H.FREQ) $15.625 \pm 50\text{Hz}$.
4. After adjustment, remove the jamper.

4-2. B1 BOARD ADJUSTMENTS



B1 BOARD (COMPONENT SIDE)

REFERENCE OSCILLATOR ADJUSTMENT (CT302 8.8MHz)

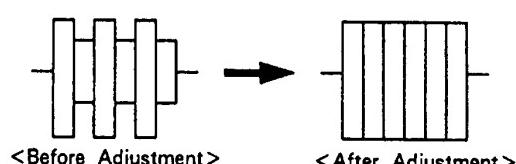
1. Input a PAL color bar signal.
2. Ground pin ⑯ of the IC304.
3. Adjust CT302 to obtain synchronization.

REFERENCE OSCILLATOR ADJUSTMENT (CT301 7.16MHz)

1. Input an NTSC color bar signal.
2. Ground pin ⑯ of IC304.
3. Adjust the CT301 to obtain synchronization.
4. Remove the jumper grounding pin ⑯ of IC304.

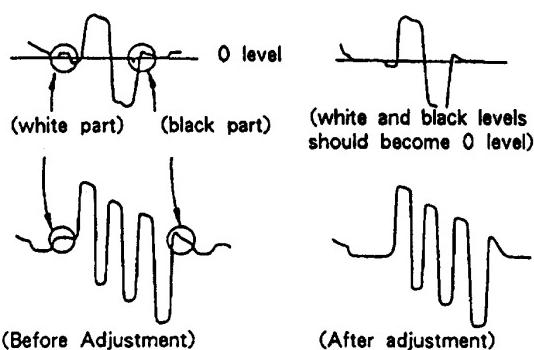
BELL FILTER ADJUSTMENT (L313)

1. Input a SECAM color bar signal.
2. Connect the oscilloscope to the emitter of Q344.
3. Adjust L313 so that the waveform is flat.



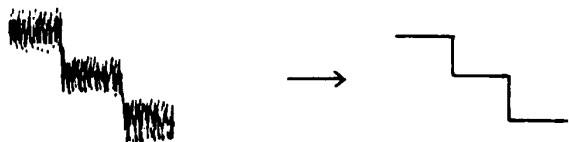
DISCRIMINATION ADJUSTMENTS (RV301 and L303)

1. Input a SECAM color bar signal.
2. Connect the oscilloscope to pin ① of IC304.
3. Adjust RV301 until the white and black sections of the waveform at pin ① are at the 0 level. Connect the oscilloscope to pin ③ of IC304.
4. Adjust L303 until the white and black sections of the waveform at pin ③ are at the 0 level.



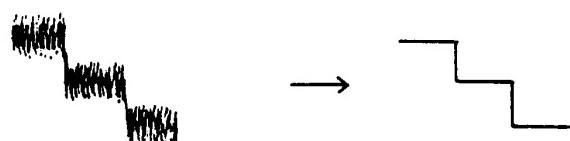
SECAM TRAP (L312)

1. Input a SECAM color bar signal.
2. Connect oscilloscope to Q340 emitter and adjust L312 to minimize color carrier on the Y-signal.

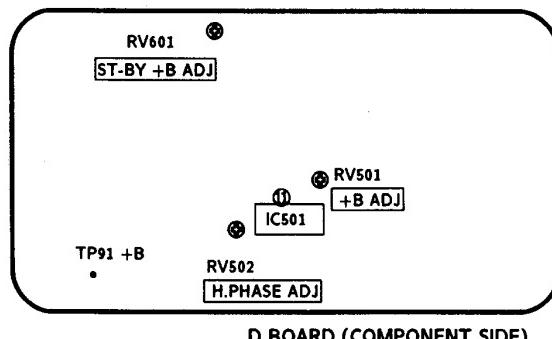


NTSC TRAP (L308)

1. Input a NTSC (3.58) color bar signal.
2. Connect oscilloscope to Q340 emitter and adjust L308 to minimize color carrier on the Y-signal.



4-3. D BOARD ADJUSTMENTS



+B ADJUSTMENT (RV501)

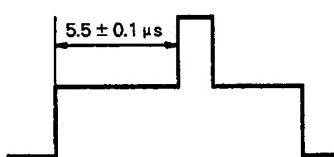
1. Connect the digital multimeter to TP91.
2. Adjust RV501 to obtain $135 \pm 0.2V$.

ST-BY +B ADJUSTMENT (RV601)

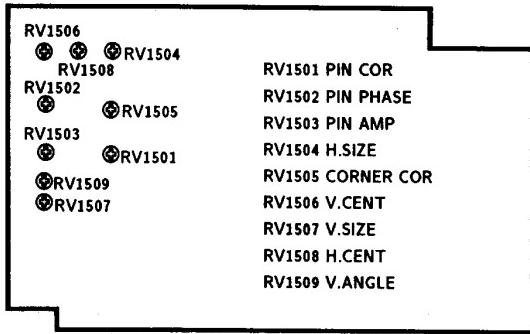
1. Put the system into \textcircled{S} standby mode (remote commander).
2. Connect the digital multimeter to TP91.
3. Adjust RV601 to obtain $135 \pm 3V$.
4. Take the system out of \textcircled{S} standby mode (remote commander).

H.PHASE ADJUSTMENT (RV502)

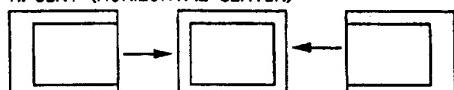
1. Input a PAL color bar signal.
2. Set the picture and brightness controls to their normal levels.
3. Set RV1508 (H.CENT) to its mechanical center.
4. Connect the oscilloscope to pin ⑪ (SCP) of IC 501.
5. Rotate RV502 to adjust to $5.5 \pm 0.1 \mu s$.



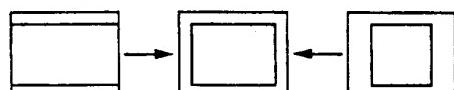
4-4. J1 BOARD ADJUSTMENTS



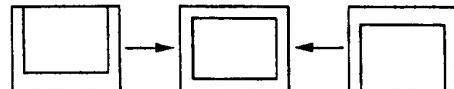
RV1508
H. CENT (HORIZONTAL CENTER)



RV1504
H. SIZE (HORIZONTAL SIZE)



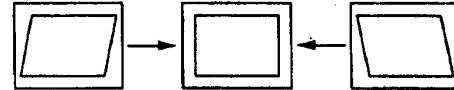
RV1506
V. CENT (VERTICAL CENTER)



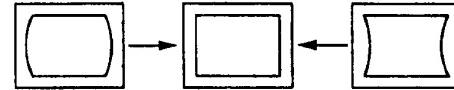
RV1507
V. SIZE (VERTICAL SIZE)



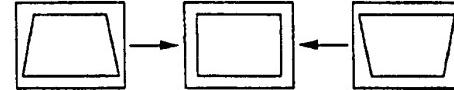
RV1509
V. ANGLE (VERTICAL ANGLE)



**RV1503
PIN AMP (PINCUSHION AMPLIFIER)**



RV1502
PIN PHASE (PINCUSHION PHASE)



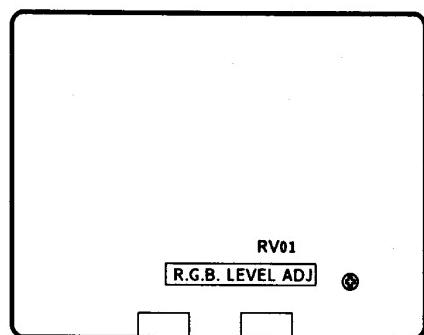
RV1501
PIN. COR (PINCUSHION CORRECT)



RV1505
CORNER. COR (CORNER CORRECT)



4-5. V BOARD ADJUSTMENT



V BOARD (COMPONENT SIDE)

RGB LEVEL ADJUSTMENT (RV01)

1. Maximize the picture setting.
 2. Adjust RV01 so that the RGB output is 0.75V.

4-6. SECONDARY ADJUSTMENTS

SUB BRIGHTNESS ADJUSTMENT

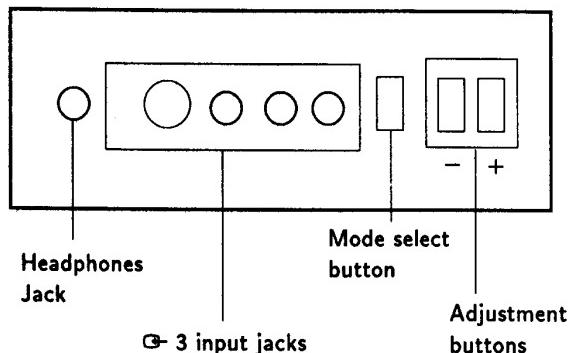
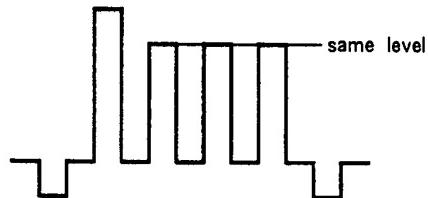
1. Set the system to receive a test pattern.
2. Press $\rightarrow \cdot \leftarrow$ on the remote commander to put the system into normal mode.
3. Switch off the power.
4. While depressing the adjusting buttons + and - simultaneously, turn on the power. (SUB mode is obtained)
5. Minimize the \odot contrast setting.
6. Adjust the \odot brightness control so that the gray scale 0 IRE section is cut off completely and the 20 IRE section is barely glowing.
7. Depress the \diamond (store) button of the remote commander.
(SUB mode is released)

If there is no test color pattern

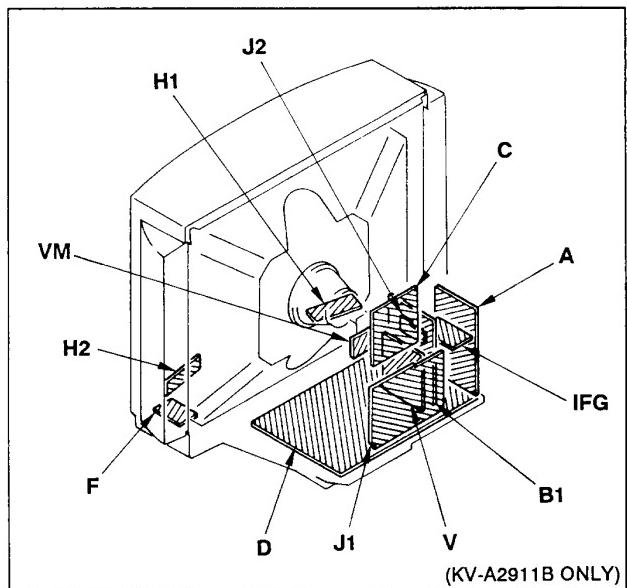
1. Set the system to receive a color pattern.
2. Press $\rightarrow \cdot \leftarrow$ on the remote commander to put the system into normal mode.
3. Set the \odot color to its normal state.
4. Steps are the same as above.
5. Since 20 IRE is nearly blue, adjust the \odot brightness control so that the blue barely glows.
6. Same as step 7 above.
7. Press $\rightarrow \cdot \leftarrow$ on the remote commander to put the system into normal mode.

SUB COLOR ADJUSTMENT

1. Set the system to receive color bars.
2. Press $\rightarrow \cdot \leftarrow$ on the remote commander to put the system into normal mode.
3. Cut off the power.
4. While depressing the adjustment buttons + and - simultaneously, turn on the power. (SUB mode is obtained).
5. Adjust the color control so that the B out waveform (pin ⑤ of C board connector CNC72) is as shown in the figure below.
6. Depress the \diamond (store) button of the remote commander. (SUB mode is released)



5-2. CIRCUIT BOARDS LOCATION



Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: *	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

- Readings are taken with a color-bar signal input.
- Readings are taken with a $10M\Omega$ digital multimeter.
- Voltage are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform references.
- — : B+ bus.
- → : signal path.(RF)

5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS – Conductor Side –

Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un trame et une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note:

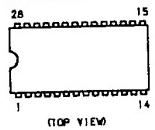
- All capacitors are in μF unless otherwise noted. pF: $\mu\mu F$ 50 WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms.
 $k\Omega = 1000\Omega$, $M\Omega = 1000K\Omega$
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm
Rating electrical power $1/4$ W

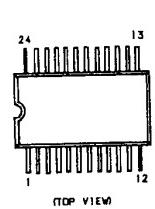
- : nonflammable resistor.
- : internal component.
- : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth-ground.
- : earth-chassis.
- : no mounted.

5-4. SEMICONDUCTORS

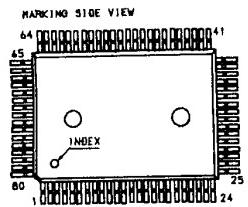
CXA1114P
FCB61C65-70P
SAA5246P/E
SDA20162-A002
TDA4580-V6
TDA6200
TEA2028B



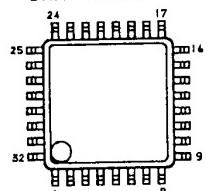
CX01175AM



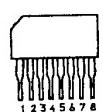
CX02011Q



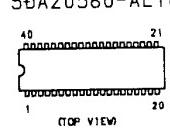
CXK-12020



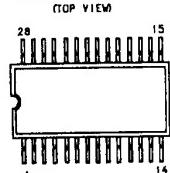
CX20061



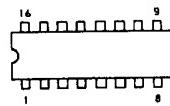
FCB61C65-70P
SDA20560-AE1C



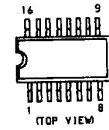
MB40968PF



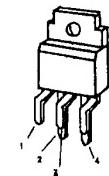
MC14053BCP
PCF8574
TC4051BPHB
TDA4660T
TDA8442-N3
TEA2260



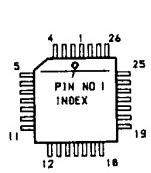
HCF4052BM



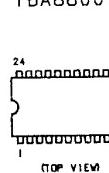
TDA2050



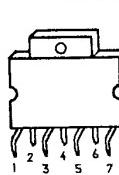
TDA4650WP



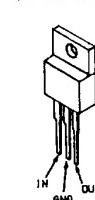
TDA6600-2



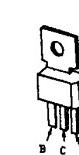
TDA8170



TEA7605
TYA7812CT
μPC24M05HF



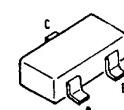
BF871



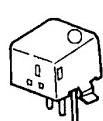
BU508AS1
BU508AS1H
2SD1548-LB



DTA144EK
DTC114EK
DTC124EK
2SA1162-G
2SB1295-UL6
2SC1623-L5L6



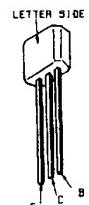
SBX1610-11



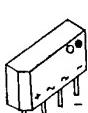
ДТС144ЕС



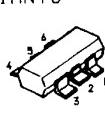
2SC2785-HFE



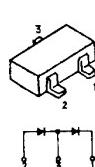
Д4SB60L-F



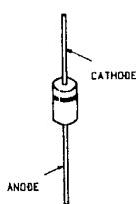
1МН10



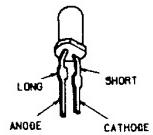
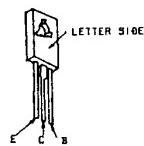
1SS226

2SA1091-0
2SD789-34

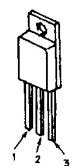
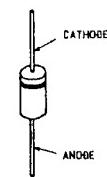
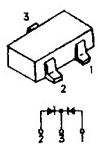
2SD2096-EF

EGP20G
ERC06-15S
RU-3AMMTZJ-13B
MTZJ-15A
MTZJ-3.9B
MTZJ-33A
MTZJ-36D
MTZJ-6.2B
MTZN-10C
RD5.6ES-B2
RD6.8ES-B2
RD7.5ES-B2
RD9.1ES-B3
UZ4.7BSC
1SS119

ЛД-201VR

2SA1220А-Р
2SC2688-LK
2SD789-34

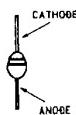
CTU-12S

ERD28-08S
RGП02-17RD11M-B2
RD3.6M-B2
RD5.6M-B2
RD6.8M-B22SB734-34
2SD774-34DAN202K
DAN212K
MA152WK

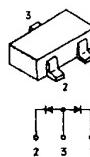
ERD29-08J



U05G



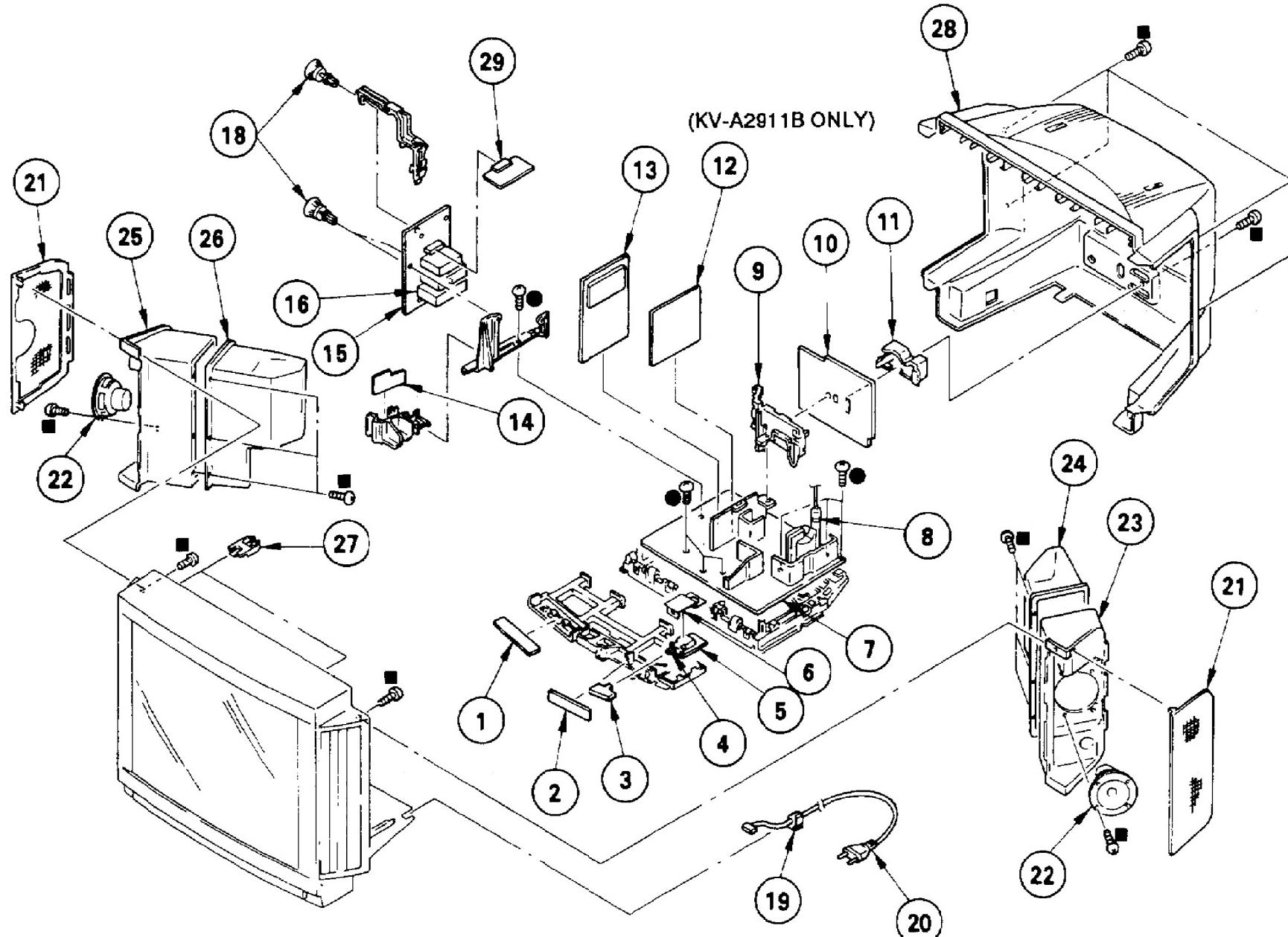
ДАР202К



6-1. CHASSIS

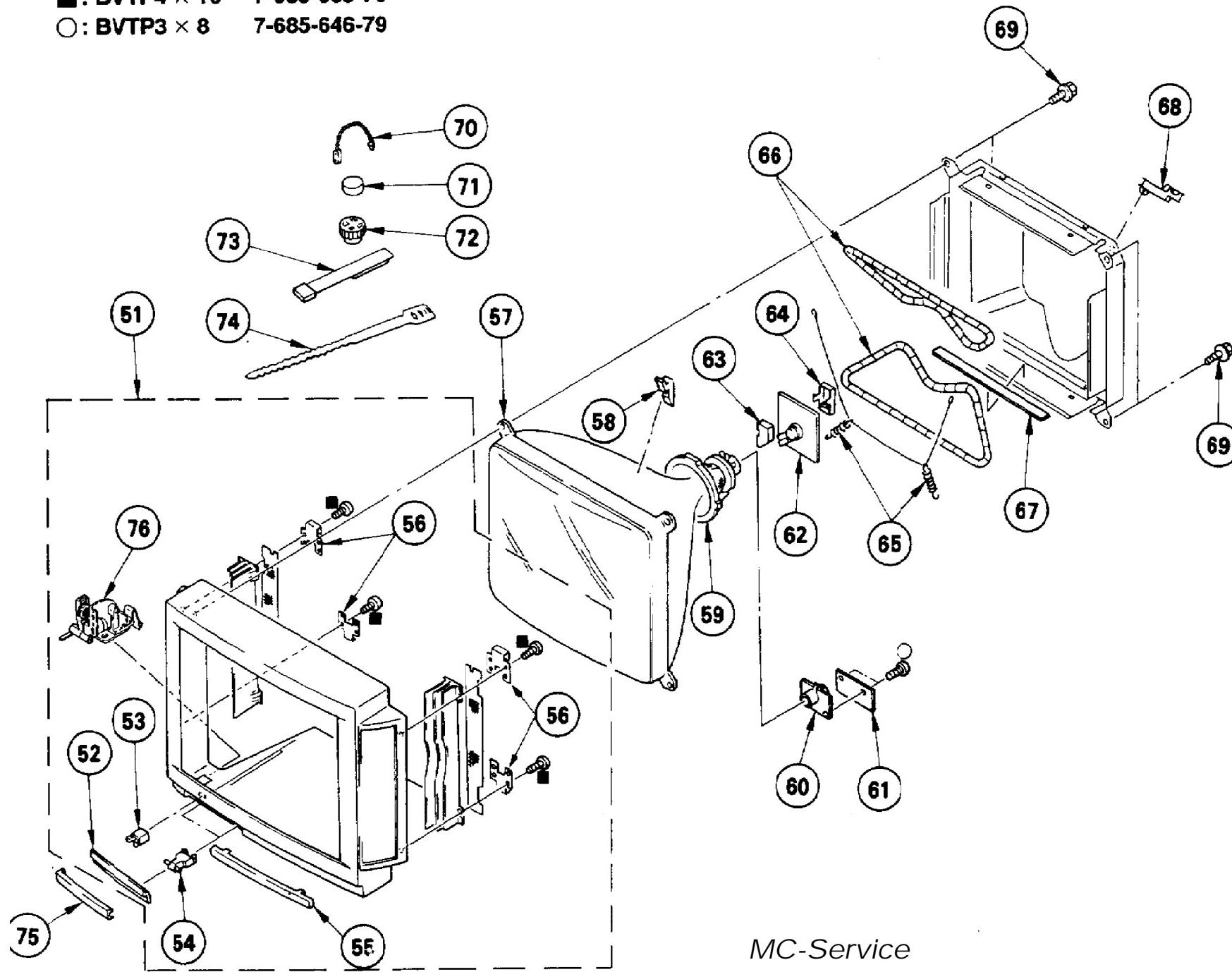
- : BVTP3 × 12 7-685-648-79
- : BVTP4 × 16 7-685-663-79

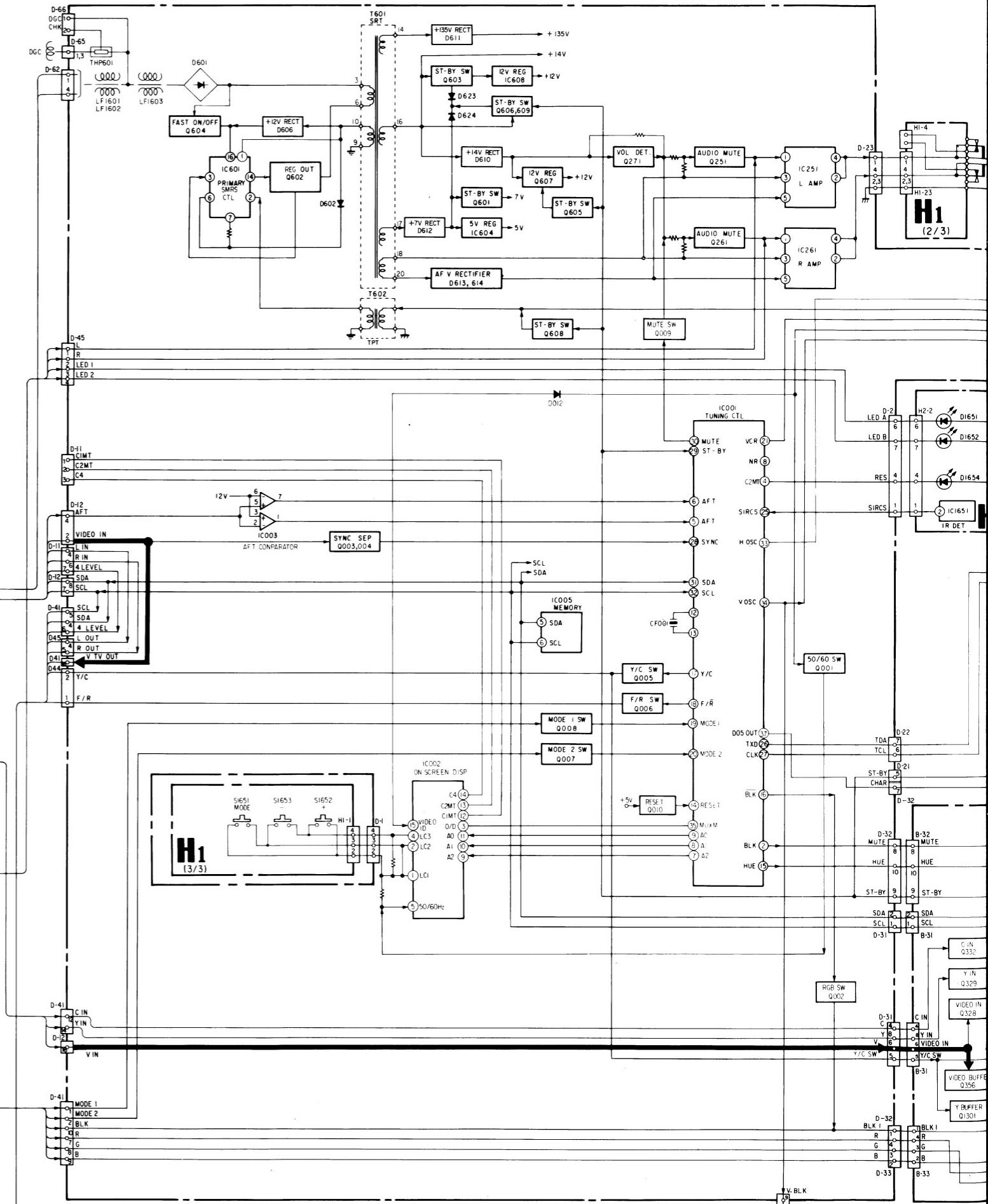
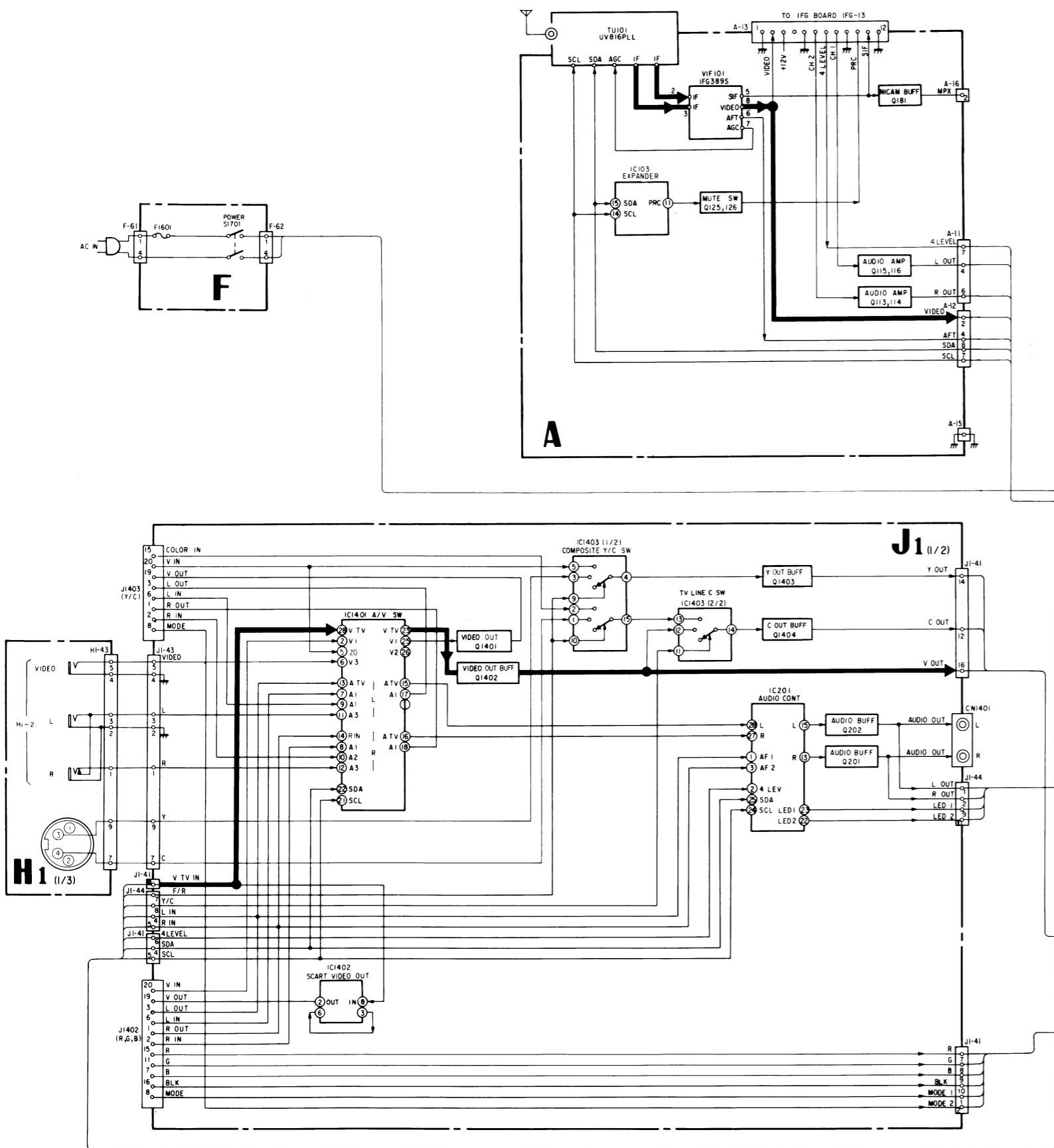
Les composants identifies par une trame et une marque  sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

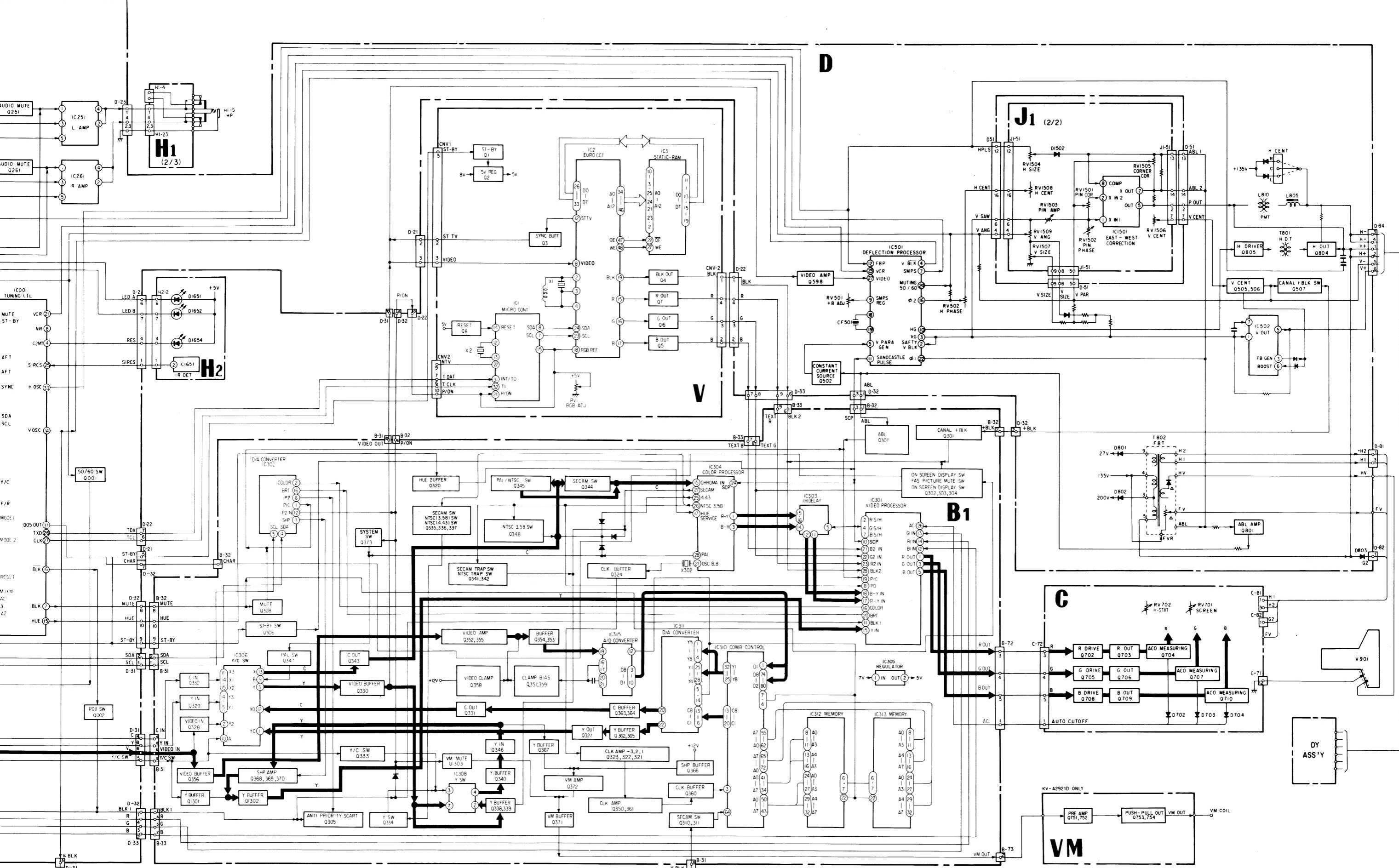


6-2. PICTURE TUBE

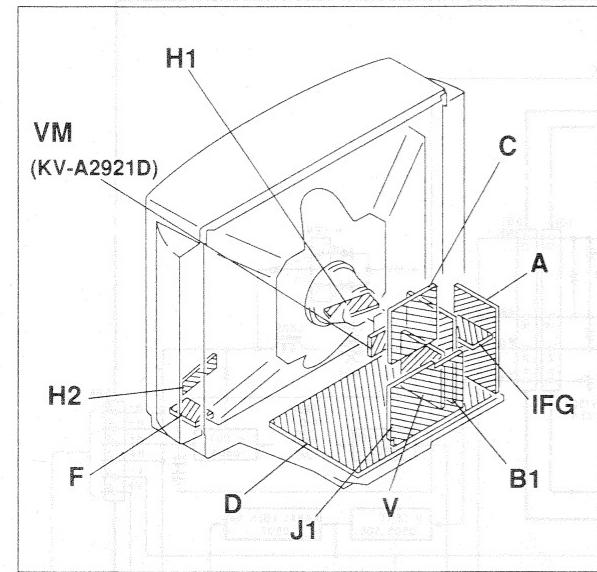
■ : BVTP4 × 16 7-685-663-79
○ : BVTP3 × 8 7-685-646-79



SECTION 5
DIAGRAMS



5-2. CIRCUIT BOARDS LOCATION



Reference information

RESISTOR	: RN METAL FILM
	: RC SOLID
	: FPRD NONFLAMMABLE CARBON
	: FUSE NONFLAMMABLE FUSIBLE
	: RW NONFLAMMABLE WIREWOUND
	: RS NONFLAMMABLE METALOXIDE
	: RB NONFLAMMABLE CEMENT
	: * ADJUSTMENT RESISTOR
	: LF-8L MICRO INDUCTOR
COIL	CAPACITOR : TA TANTALUM
	: PS STYROL
	: PP POLYPROPYLENE
	: PT MYLAR
	: MPS METALIZED POLYESTER
	: MPP METALIZED POLYPROPYLENE
	: ALB BIPOLAR
	: ALT HIGH TEMPERATURE
	: ALR HIGH RIPPLE

5-3. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

— Conductor Side —

Note:

- All capacitors are in μF unless otherwise noted.
- pF: μF 50V or less are not indicated except for electrolytics and tantalums.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms.
- $\text{k}\Omega = 1000\Omega$, $\text{M}\Omega = 1000\text{K}\Omega$
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm
Rating electrical power 1/4W

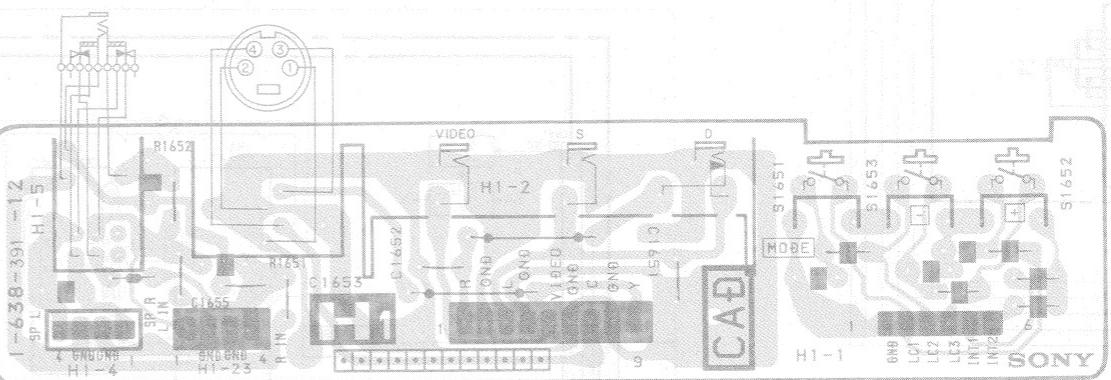
- METAL FILM (:RN) resistors in 1%, 1/6W unless otherwise specified.
- nonflammable resistor.
- internal component.
- panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- earth-ground.
- earth-chassis.
- All voltages are in V.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10-M Ω digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerance.
- B+ bus.
- signal path. (RF)
- Circled numbers are waveform references.

Note:

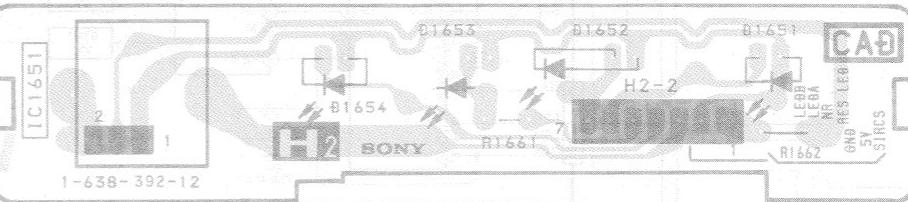
The components identified by shading and mark are critical for safety. Replace only with part number specified.



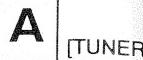
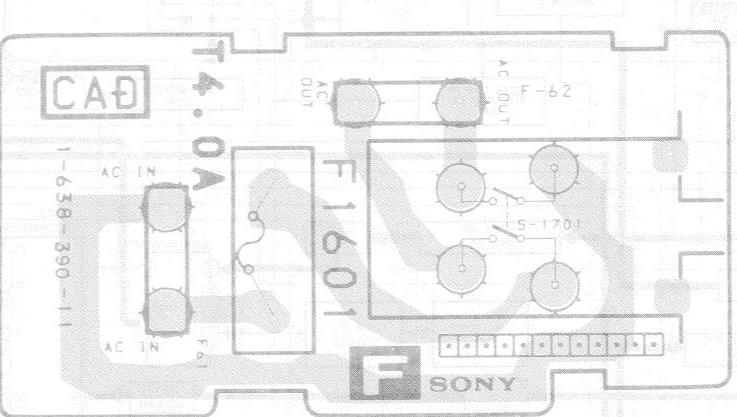
— H1 Board —



— H2 Board —



— F Board —



— A Board —



— VM Board —

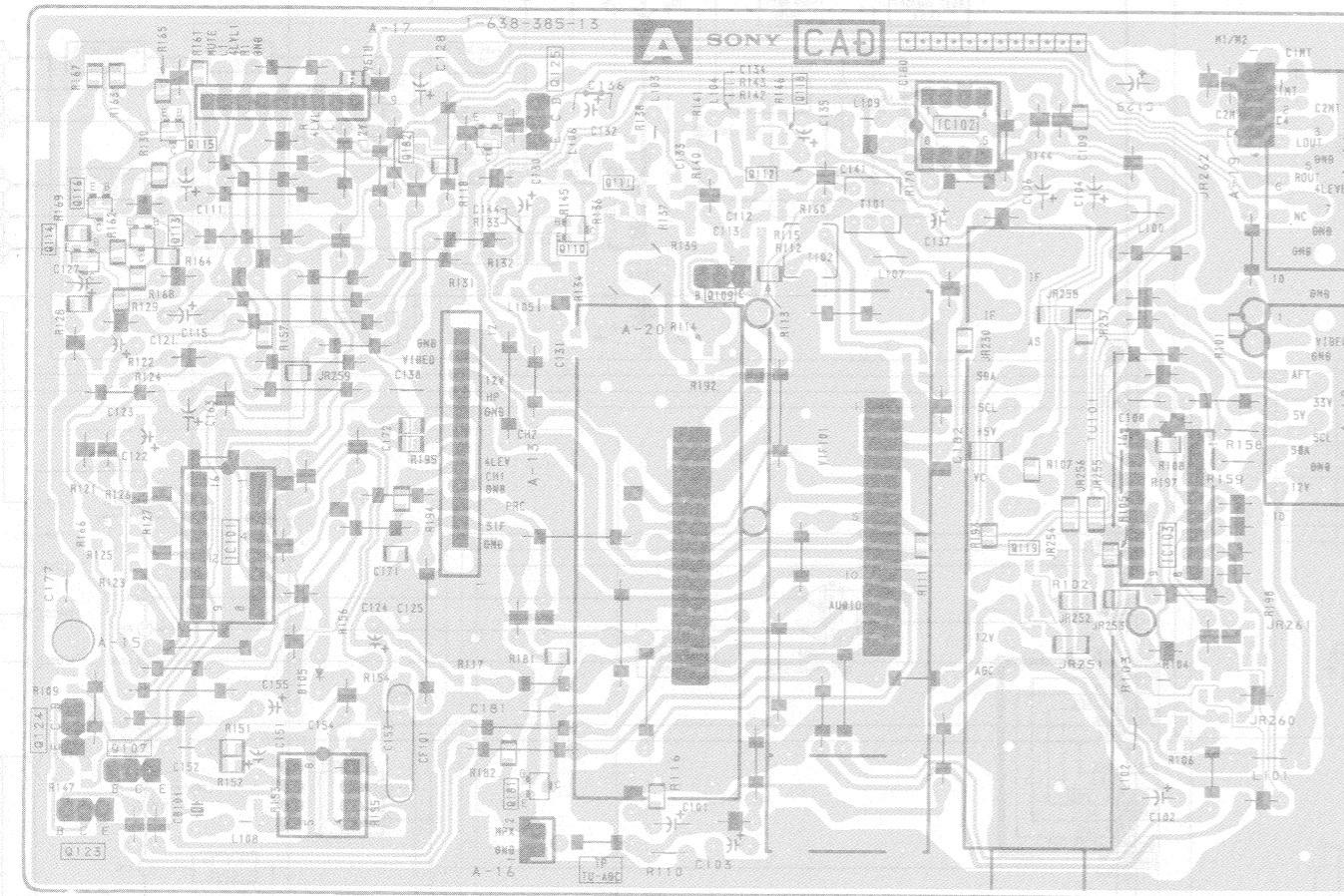
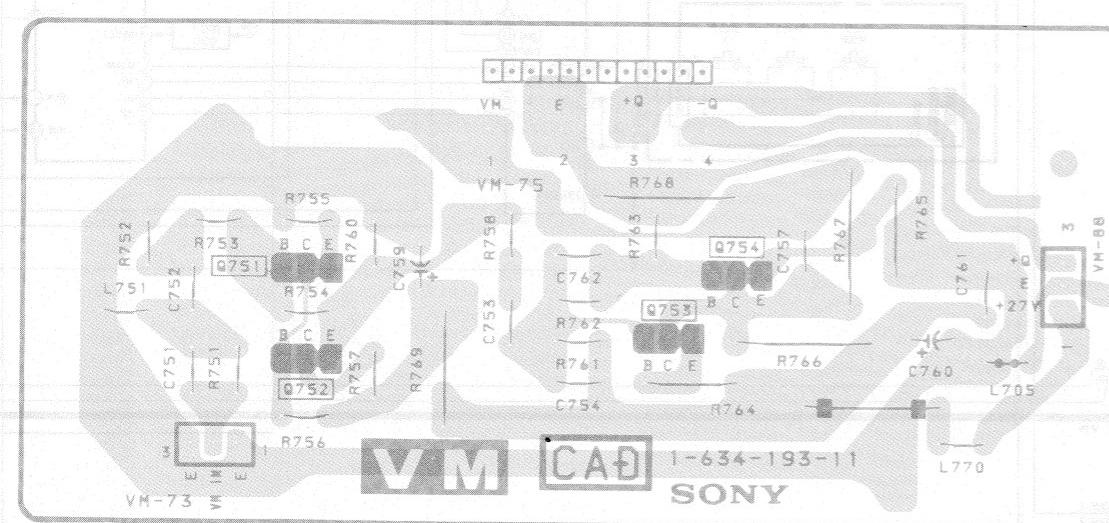
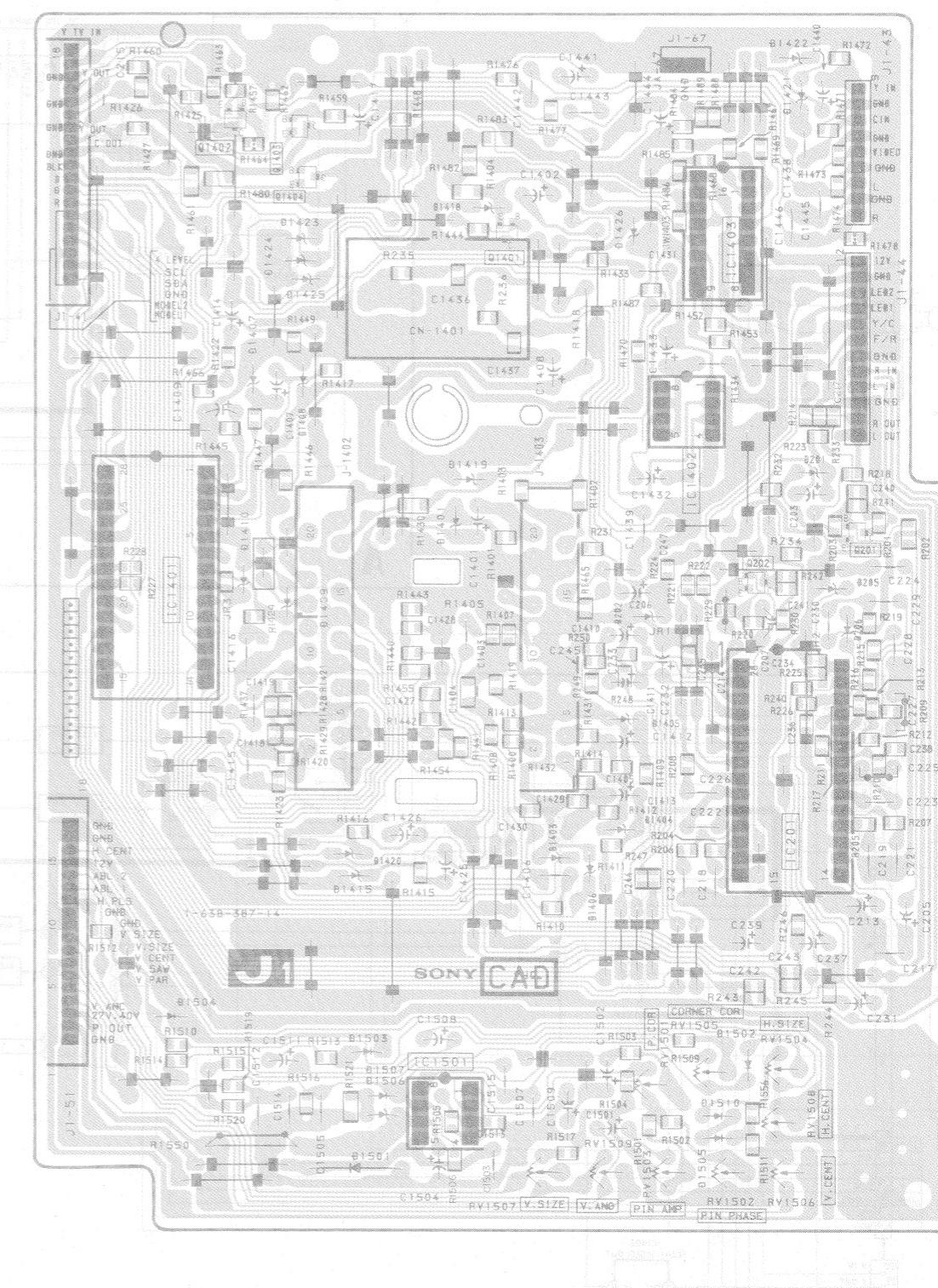


A

[TUNER, SIF, VIF]

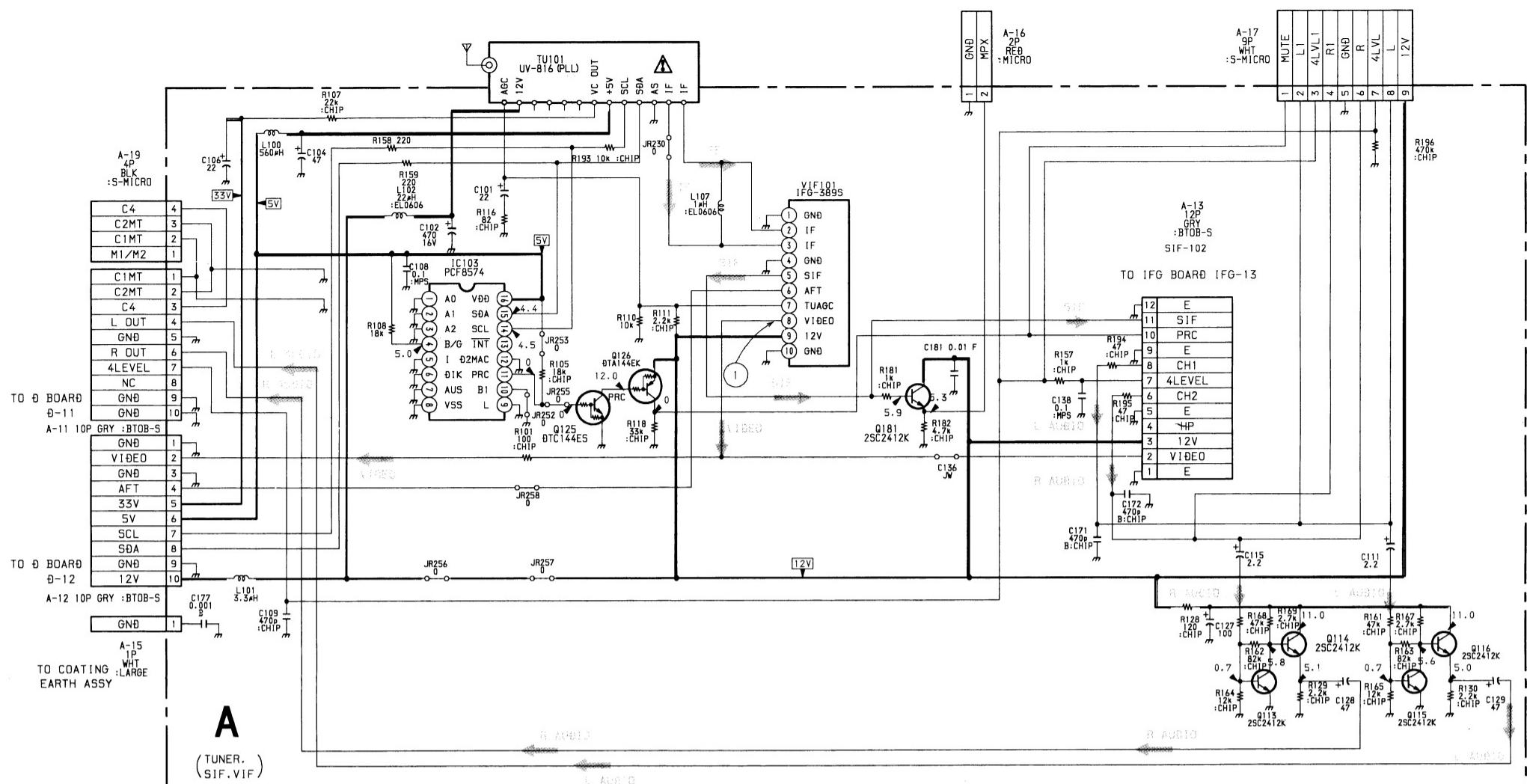
VM

[VM AMP]

— A Board —**— VM Board — (KV-A2921D ONLY)****J1**[AUDIO CONTROL, AV INPUT
Y/C INPUT, SCART VIDEO OUT,
EAST-WEST CORRECTION]**— J1 Board —****MC-Service**

1 2 3 4 5 6 7 8 9 10 11

A

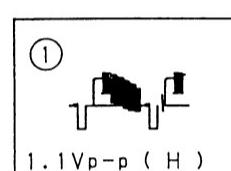


B-SS4172<AEPA>-A..

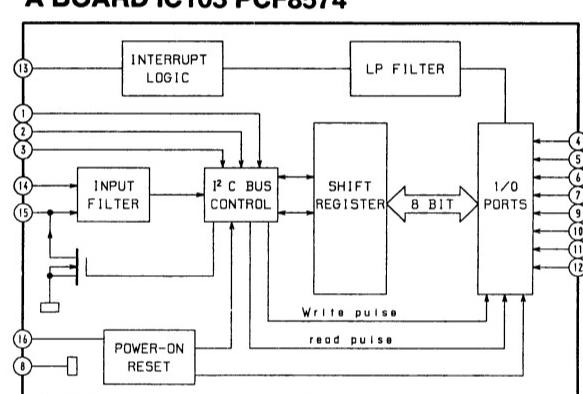
— A Board —

IC103	PCF8574	EXPANDER
Q113	2SC2412K	AUDIO AMP
Q114	2SC2412K	AUDIO AMP
Q115	2SC2412K	AUDIO AMP
Q116	2SC2412K	AUDIO AMP
Q125	DTA144ES	MUTE SW
Q126	DTA144EK	MUTE SW
Q181	2SC2412K	NICAM BUFFER

— A Board —



A BOARD IC103 PCF8574



G

H

I

J

K

L

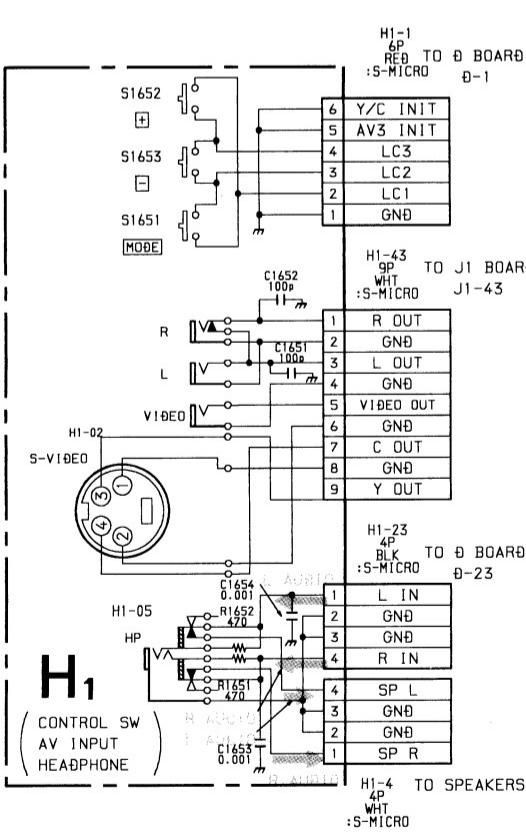
M

N

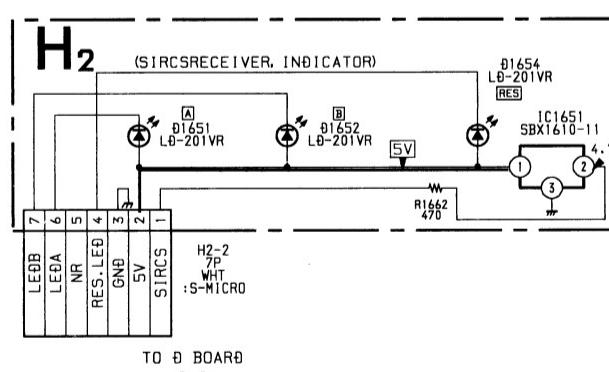
O

P

H1-1
6P
RED TO D BOARD
:S-MICRO D-1



MC-Service



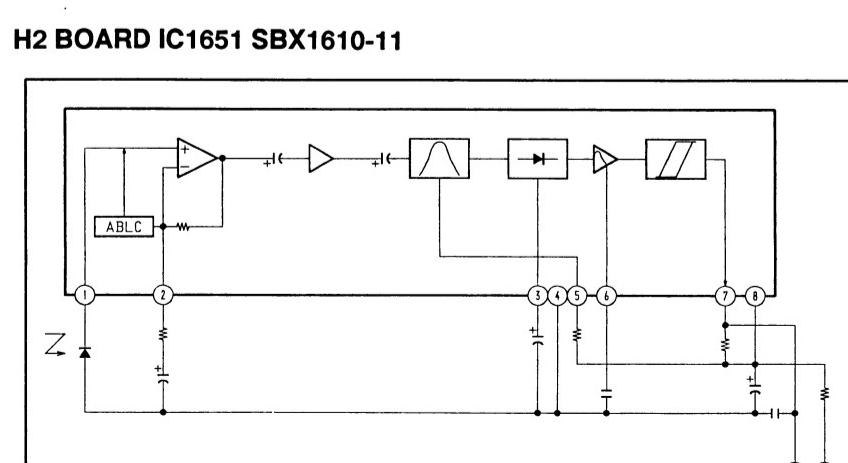
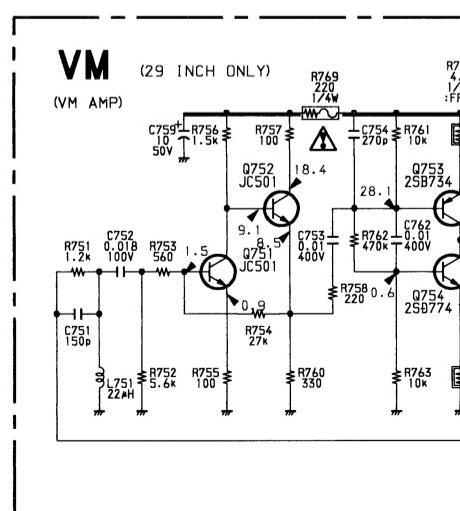
— H2 Board —

IC1651	SBX1610-11	INFRARED RECEIVER
01651	L0-201VR	AUDIO CHANNEL A INDICATOR
01652	L0-201VR	AUDIO CHANNEL B INDICATOR
01654	L0-201VR	RESET INDICATOR

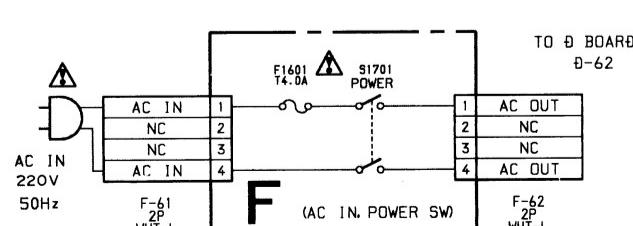
— VM Board — (KV-A2921D ONLY)

Q751	JC501	REF-AMP
Q752	JC501	REF-AMP
Q753	25B734	PUSH-PULL
Q754	25D774	PUSH-PULL

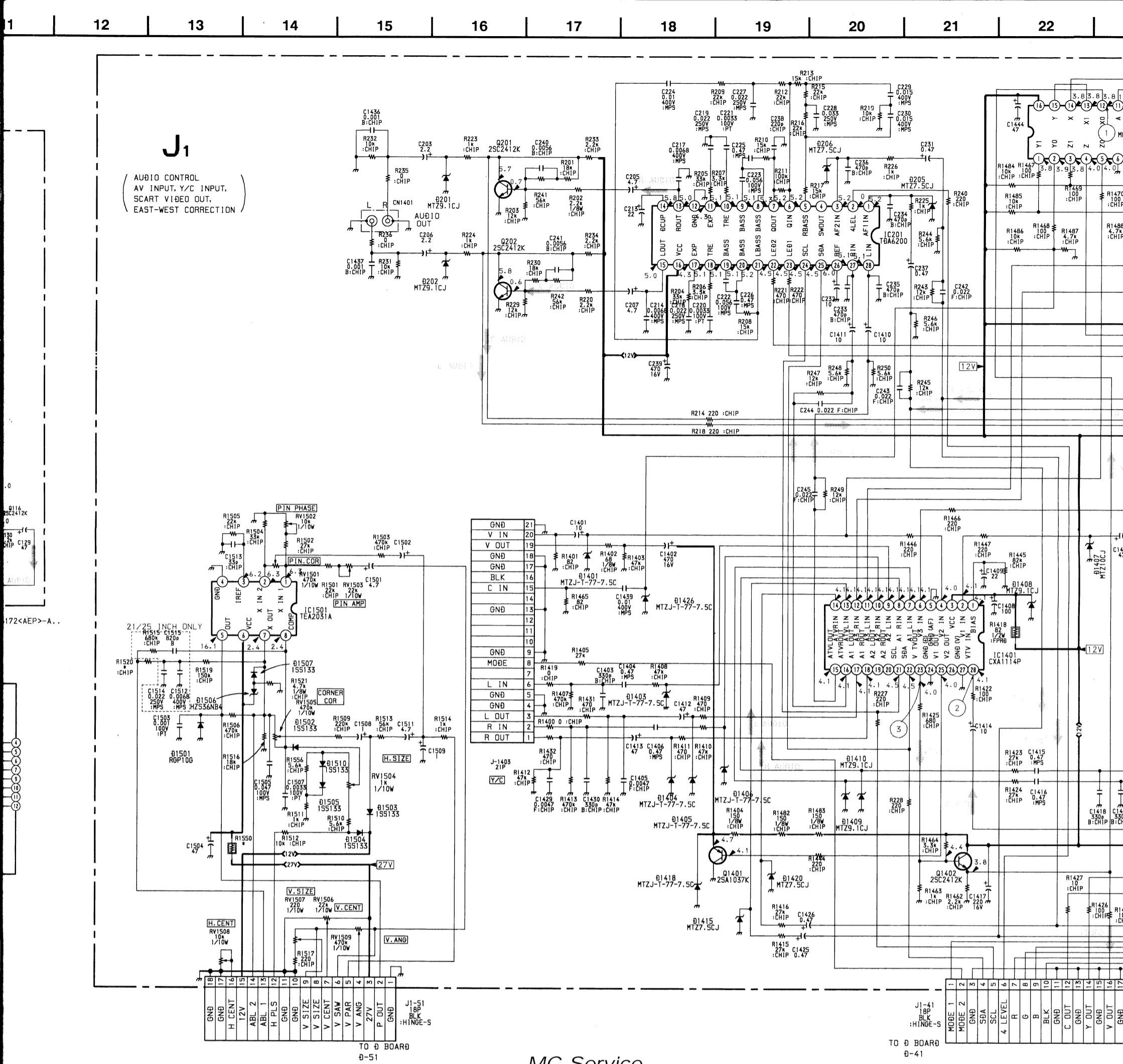
— VM Board — (KV-A2921D ONLY)



H2 BOARD IC1651 SBX1610-11

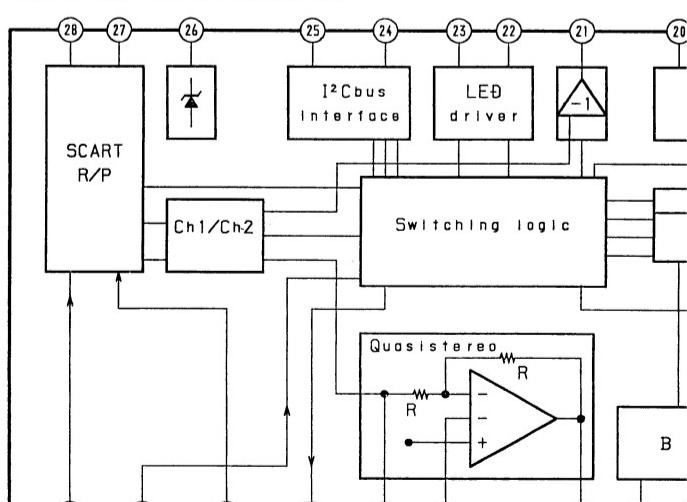


B-SS4172 <AEPA>-F



MC-Service

J1 BOARD IC201 TDA6200



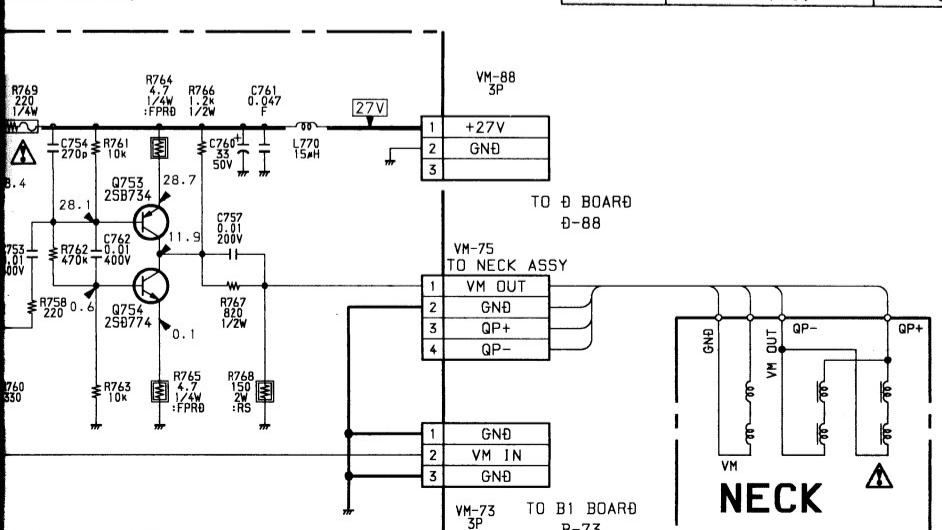
J1 BOARD * MARK

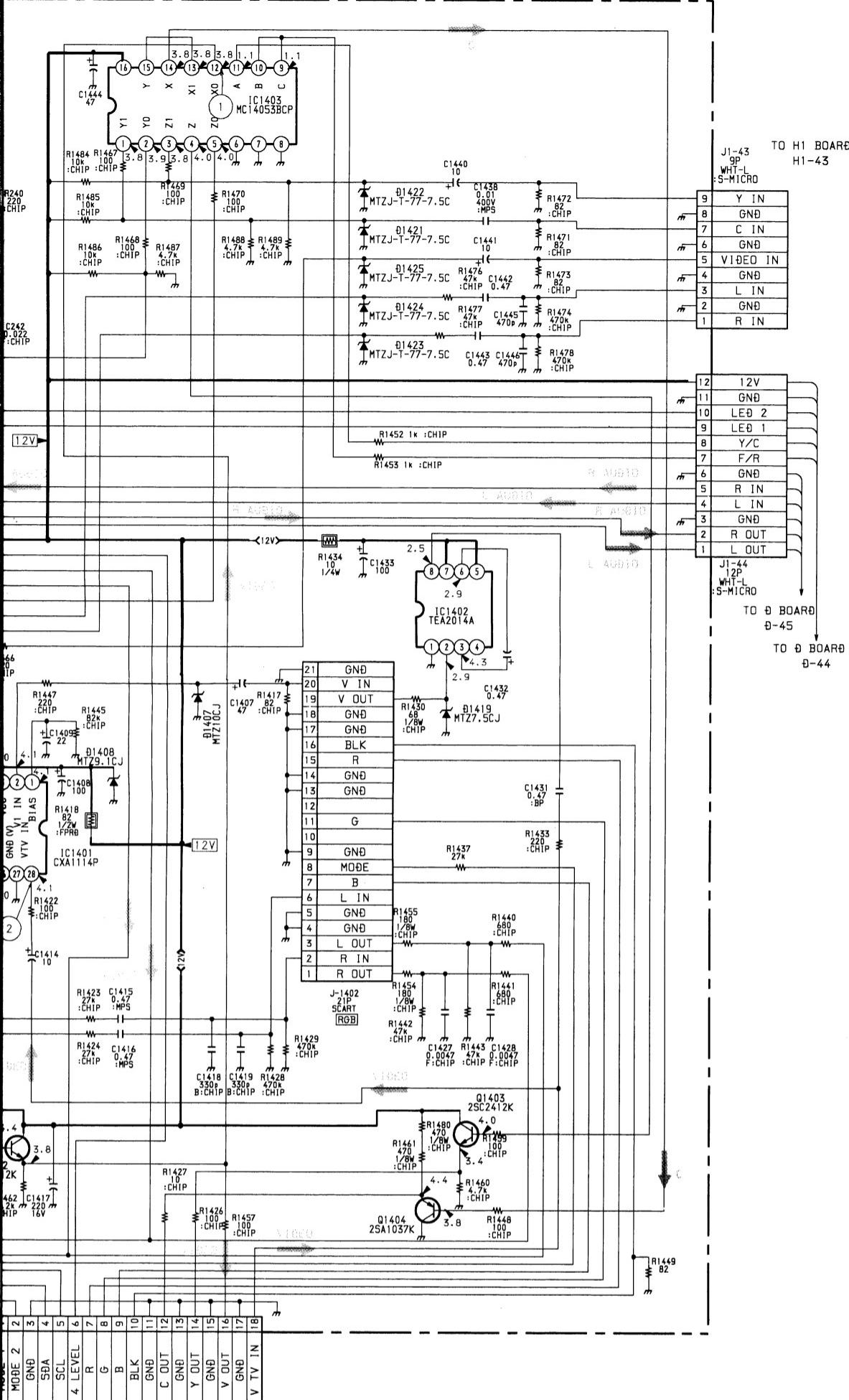
	KV-A2121-D	KV-A2521-D	KV-A2921-D
C1512	0.0068 400V	0.0068 400V	—
C1514	0.022 250V	0.022 250V	—
C1515	820P	820P	—
R1520	680K	680K	—
R1520	470K 1/10W	470K 1/10W	390K 1/10W
R1550	JW (15)	JW (15)	1 1W

921D ONLY)

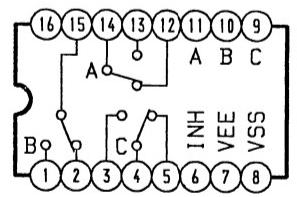
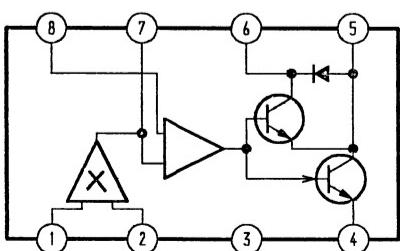
REF-AMP	
REF-AMP	
PUSH-PULL OUT	
PUSH-PULL OUT	

21D ONLY)

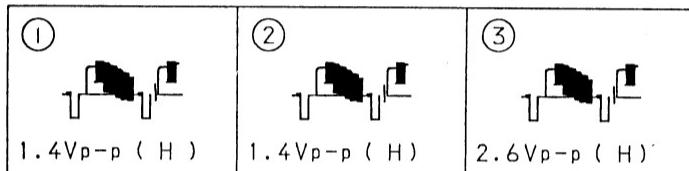
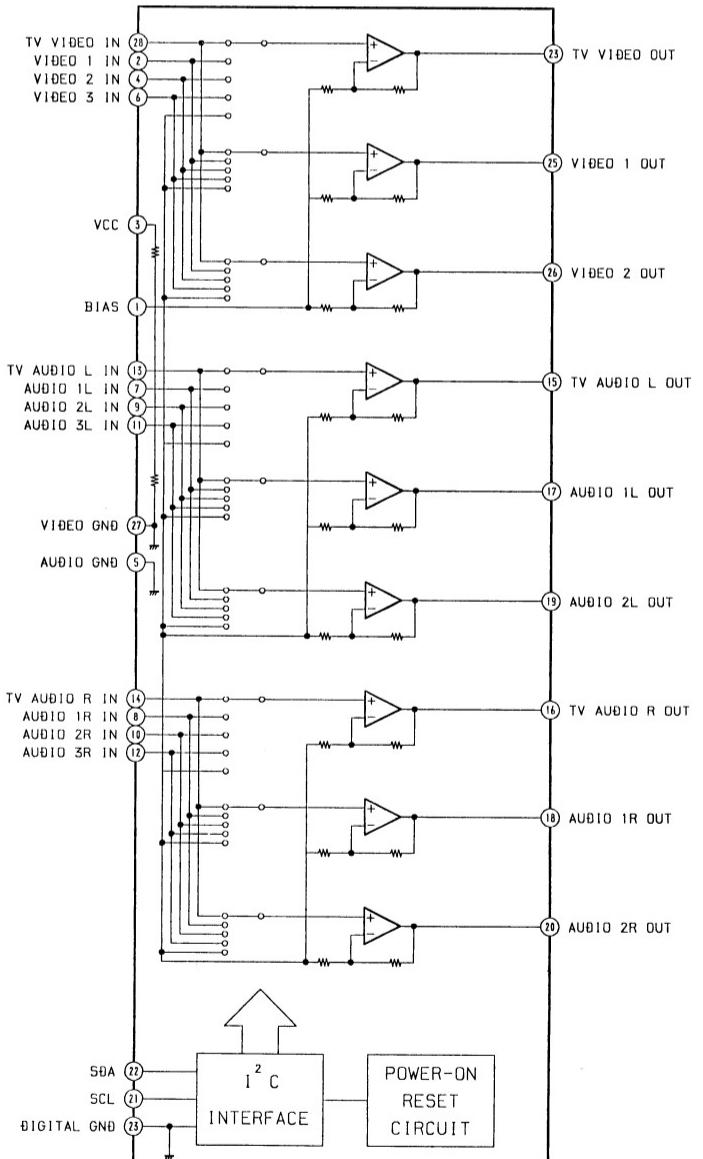




B-SS4161<UK.>-J1.

J1 BOARD IC1401 CXA1114P**J1 BOARD IC1501 TEA2031A****J1 Board**

IC201	TDA6200	AUDIO CONTROL
IC1401	CXA1114P	AV SW
IC1402	TEA2014A	SCART VIDEO OUT
IC1403	MC14053BCP	COMPOSITE Y/C SW
IC1501	TEA2031A	EAST-WEST CORRECTION
Q201	2SC2412K	AUDIO R BUFF
Q202	2SC2412K	AUDIO L BUFF
Q1401	2SA1037K	VIDEO OUT
Q1402	2SC2412K	VIDEO OUT BUFF
Q1403	2SC2412K	Y OUT BUFF
Q1404	2SA1037K	C OUT BUFF
Q201	MTZJ-T-77-9.1C	PROTECT
Q202	MTZJ-T-77-9.1C	PROTECT
Q205	MTZJ-T-77-7.5C	PROTECT
Q206	MTZJ-T-77-7.5C	PROTECT
Q1401	MTZJ-T-77-7.5C	PROTECT
Q1403	MTZJ-T-77-7.5C	PROTECT
Q1404	MTZJ-T-77-7.5C	PROTECT
Q1405	MTZJ-T-77-7.5C	PROTECT
Q1406	MTZJ-T-77-7.5C	PROTECT
Q1407	MTZJ-T-77-10C	PROTECT
Q1408	MTZJ-T-77-9.1C	REG
Q1409	MTZJ-T-77-9.1C	PROTECT
Q1410	MTZJ-T-77-9.1C	PROTECT
Q1415	MTZJ-T-77-7.5C	PROTECT
Q1418	MTZJ-T-77-7.5C	PROTECT
Q1419	MTZJ-T-77-7.5C	PROTECT
Q1420	MTZJ-T-77-7.5C	PROTECT
Q1421	MTZJ-T-77-7.5C	PROTECT
Q1422	MTZJ-T-77-7.5C	PROTECT
Q1423	MTZJ-T-77-7.5C	PROTECT
Q1424	MTZJ-T-77-7.5C	PROTECT
Q1425	MTZJ-T-77-7.5C	PROTECT
Q1426	MTZJ-T-77-7.5C	PROTECT
Q1501	RGP10GPKG23	PROTECT
Q1502	ISS133	DECOUPLING H SIZE
Q1503	ISS133	CLIPPING V PARABOLA
Q1504	ISS133	CLIPPING H PULSE
Q1505	ISS133	REG
Q1506	H2S36NB4TD	PROTECT
Q1507	ISS133	PROTECT
Q1510	ISS133	REG

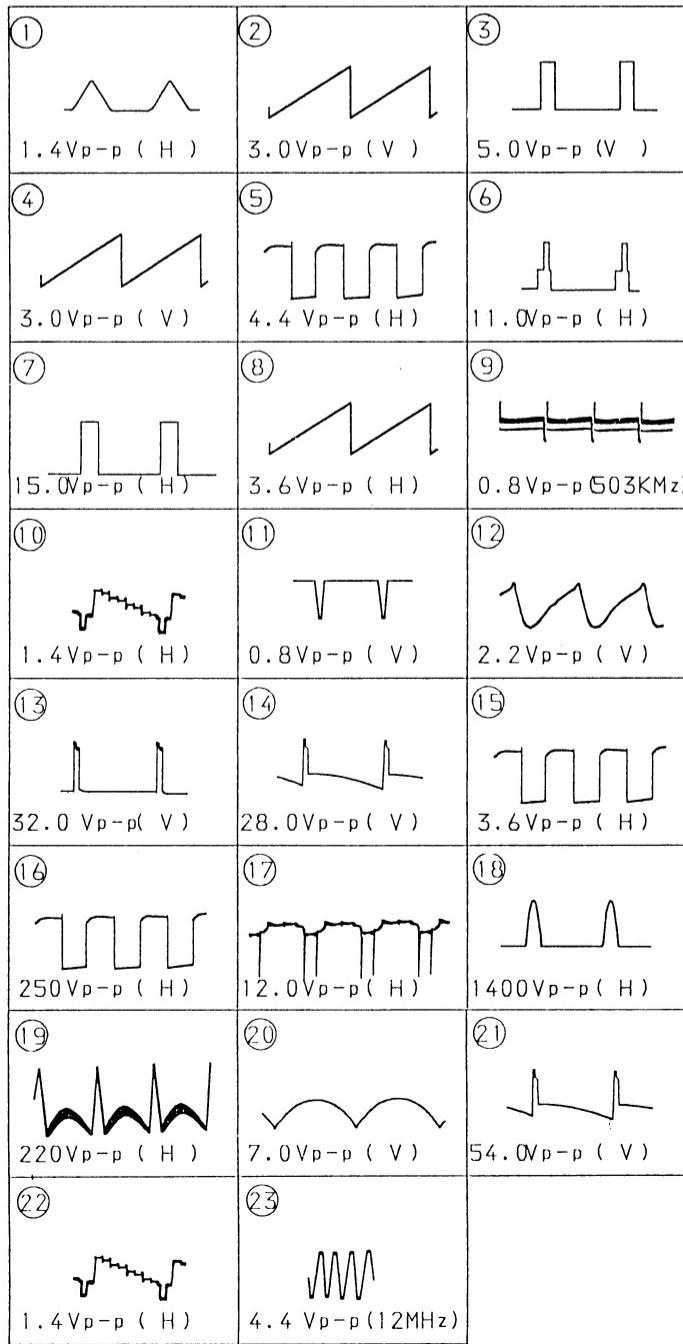
J1 Board**J1 BOARD IC1401 CXA1114P**

— D BOARD * MARK —

	KV-A2121D	KV-A2521D	KV-A2921D
C519	0.47	0.47	0.33
C526	27P	27P	22P
C536	4.7 16V	10 16V	10 16V
C617	220 25V	100 50V	100 50V
C620	1 63V	0.47 50V	0.47 50V
C811	1 200V	2 200V	2 200V
C815	1 200V	1 200V	0.82 200V
C817	0.0106 1.4KV	0.015 1.4KV	0.017 1.4KV
C821	680P 2KV	680P 2KV	470P 2KV
R525	1K 1/10W	1K 1/10W	—
R531	—	120K 1/10W	120K 1/10W
R532	—	—	—
R533	180 1/10W	0 1/10W	0 1/10W
R535	4.7M 1/4W	2.2M 1/4W	2.2M 1/4W
R545	39K 1/10W	22K 1/10W	22K 1/10W
R547	5.6K 1/10W	3.3K 1/10W	3.3K 1/10W
R548	1.2 1W	1 1W	1 1W
R549	470 2W	390 2W	390 2W
R552	1.2K 1W	—	—
R561	—	—	270K 1/10W
R570	—	—	680 1/10W
R600	—	1 1/4W	1 1/4W
R603	15 3W	12 3W	12 3W
R607	4.7K 1/10W	4.7K 1/10W	5.6K 1/10W
R631	27K 2W	27K 2W	—
R643	0.15 2W	0.12 2W	0.12 2W
R811	100 1W	22 2W	22 2W
R812	75K 1/2W	68K 1/2W	51K 1/2W
R825	1 1W	0.47 1W	0.47 1W
R5503	4.7 1/10W	4.7 1/10W	10 1/10W
R5506	—	—	12K 1/10W
JW202	—	—	5MM
JW203	5MM	5MM	—
JW204	5MM	5MM	—
JW205	—	—	5MM
JW206	5MM	5MM	—
JW207	5MM	5MM	—
JW216	15MM	15MM	—
JW229	10MM	10MM	—
L801	—	—	3.9MH
D88	—	—	3P CONNECTOR
D271	MTZJ12C	MTZJ13B	MTZJ13B
D506	DA204K	DA204K	—
D509	—	ISS133	ISS133
D514	JW (5)	JW (5)	ISS133
D515	—	—	ISS133
D807	—	ERC06-15S	ERC06-15S
D808	ERD28-08S	ERD29-08J	ERD29-08J

— D Board —

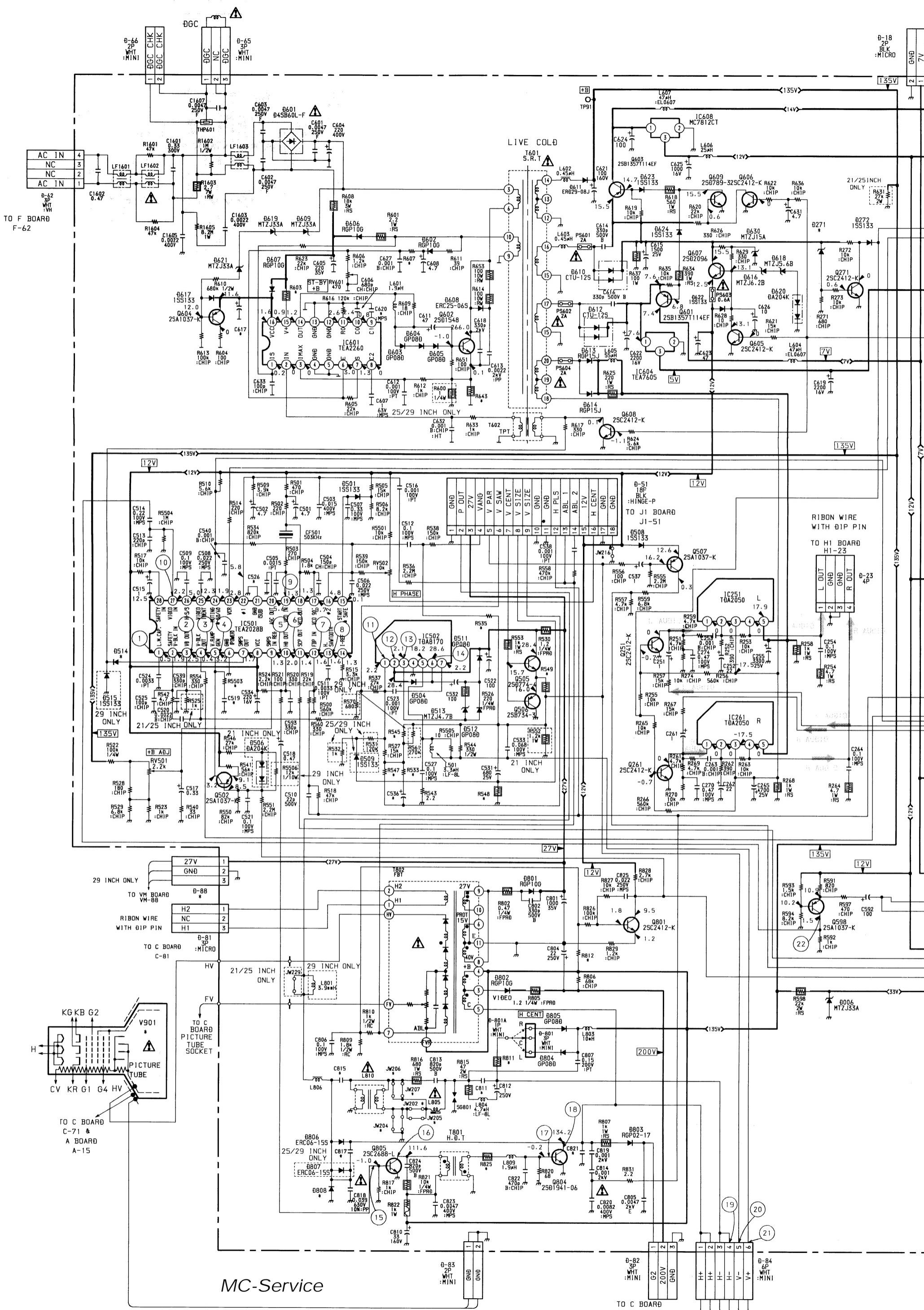
IC001	S0A20560-A012	TUNING CTL
IC002	MC14051BCP	ON SCREEN DISPLAY
IC003	BA4558	AFT COMPARATOR
IC005	S0A2546	MY MEMORY
IC251	T0A2050	AUDIO OUT (L)
IC261	T0A2050	AUDIO OUT (R)
IC501	TEA2028B	DEFLECTION PROCESSOR
IC502	T0A8170	V OUT
IC601	TEA2260	PRIMARY SMRS CTL
IC604	TEA7605	+5V REG
IC608	MC7812CT	+12V REG
Q001	0TC144EK	50/60Hz SW
Q002	0TC144EK	BLK SW
Q003	2SA1037K	SYNC SEPARATOR
Q004	2SA1037K	SYNC SEPARATOR
Q005	0TC144EK	Y/C SW
Q006	0TC144EK	FRONT/REAR SW
Q007	2SC2412K	MODE 2 SWITCH
Q008	2SC2412K	MODE 1 SWITCH
Q009	2SC2412K	MUTE SW
Q010	2SC2412K	RESET
Q251	2SC2412K	AUDIO MUTE
Q261	2SC2412K	AUDIO MUTE
Q271	2SC2412K	VOLTAGE DETECT
Q502	2SA1037K	CONSTANT CURRENT SOURCE
Q505	2SB774	V CENT
Q506	2SB734	V CENT
Q507	2SA1037K	CANAL +BLK
Q598	2SA1037K	VIDEO AMP
Q601	2SB1357T114EF	STBY SW
Q602	2SB1548	REG OUT
Q603	2SB1357T114EF	STBY SW
Q604	2SA1037K	FAST ON/OFF
Q605	2SC2412K	STBY SW
Q606	2SC2412K	STBY SW
Q607	2SD2096-EF	+12V REG
Q608	2SC2412K	STBY SW
Q609	2SD789-3	STBY SW
Q801	2SC2412K	ABL AMP
Q804	2SD1941	H OUT
Q805	2SC2688	H DRIVER

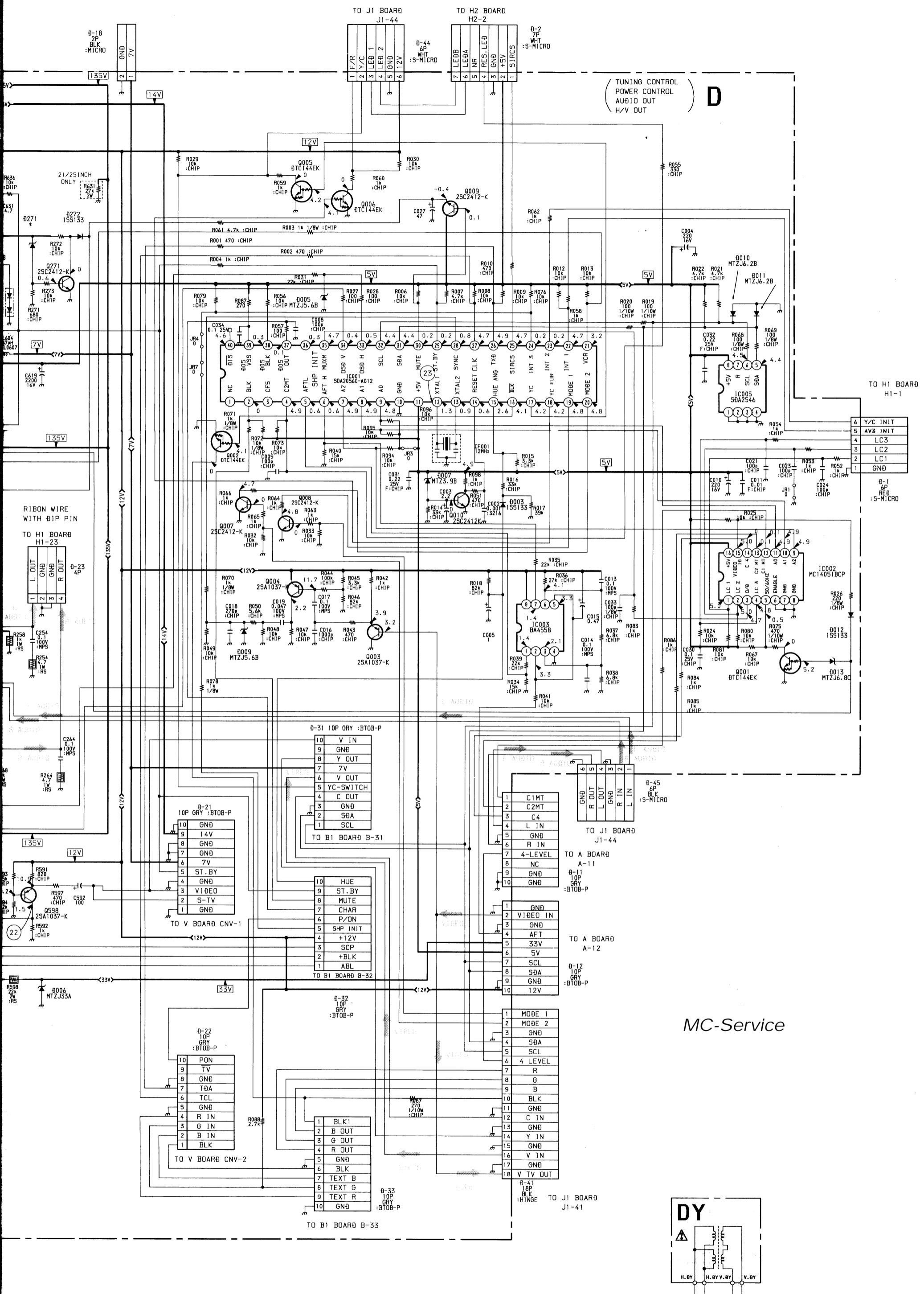
— D Board —

0001	MTZJ6.8C	PROTECT
0002	MTZJ6.8C	PROTECT
0003	ISS133	HUE CTL
0005	MTZJ5.6B	PROTECT
0006	MTZJ33A	VC VOLTAGE REGULATION
0007	MTZJ3.9B	PROTECT RESET
0009	MTZJ5.6B	CLIPPING SYNC LEVEL
0010	MTZJ6.2B	PROTECT
0011	MTZJ6.2B	PROTECT
0012	ISS133	PROTECT
0013	MTZJ6.8C	PROTECT
0271	RD12ES-B2	VOLTAGE DETECT (21 INCH ONLY)
0271	MTZJ13B	VOLTAGE DETECT (25/29 INCH ONLY)
0272	ISS133	DECOUPLING MUTE AUDIO
0501	ISS133	SOFT START
0504	GP080PKG23	V PULSE OUT
0506	DA204K	CURRENT REG (21/25 INCH ONLY)
0508	ISS133	CANAL +BLK LEVEL
0509	ISS133T-77	V LIN (25/29 INCH ONLY)
0511	GP080PKG23	PROTECT
0512	GP080PKG23	PROTECT
0513	MTZJ4.7B	PROTECT
0514	ISS133T-77	PROTECT (29 INCH ONLY)
0515	ISS133T-77	PROTECT (29 INCH ONLY)
0601	04SD60L-F	AC RECT
0602	RGP10GPKG23	REF RECT
0603	GP080PKG23	SMPS DRIVE 1
0604	GP080PKG23	SMPS DRIVE 2
0605	GP080PKG23	SMPS DRIVE 3
0606	RGP10GPKG23	+12V RECT
0607	RGP10GPKG23	REF RECT
0608	ERC25-06S	PLUSE CLIPPER
0609	MTZJ33A	FAST ON/OFF
0610	CTU-12S	+14V RECT
0611	ERD29-08J	+135V RECT
0612	CTU-12S	+7V RFCT
0613	RGP15J-6040G23	AF V RECT-1
0614	RGP15J-6040G23	AF V RECT-2
0616	MTZJ6.2B	+12V REG
0617	ISS133	PROTECT
0618	MTZJ5.6B	+12V REF
0619	MTZJ33A	FAST ON/OFF-2
0620	DA204K	+12V REF
0621	MTZJ33A	FAST ON/OFF-3
0622	ISS133	PROTECT
0623	ISS133	DECOUPLING STBY
0624	ISS133	DECOUPLING BTBY
0630	MTZJ15A	+12V RECT
0801	RGP10GPKG23	+27V RECT
0802	RGP10GPKG23	+200V RECT
0803	RGP02-17PKG23	G2 RECT
0804	GP080PKG23	H CENTER-1
0805	GP080PKG23	H CENTER-2
0806	ERC06-15S	H DAMPER-1
0807	ERC06-15S	H DAMPER-2 (25/29 INCH ONLY)
0808	ERD28-08S	PIN DAMPER (21 INCH ONLY)
0808	ERD29-08S	PIN DAMPER (25/29 INCH ONLY)

— PICTURE TUBE * MARK —

V901	KV-A2121D	KV-A2521D	KV-A2921D
	A51JXH61X	A59JWC61X	A68JYL61X



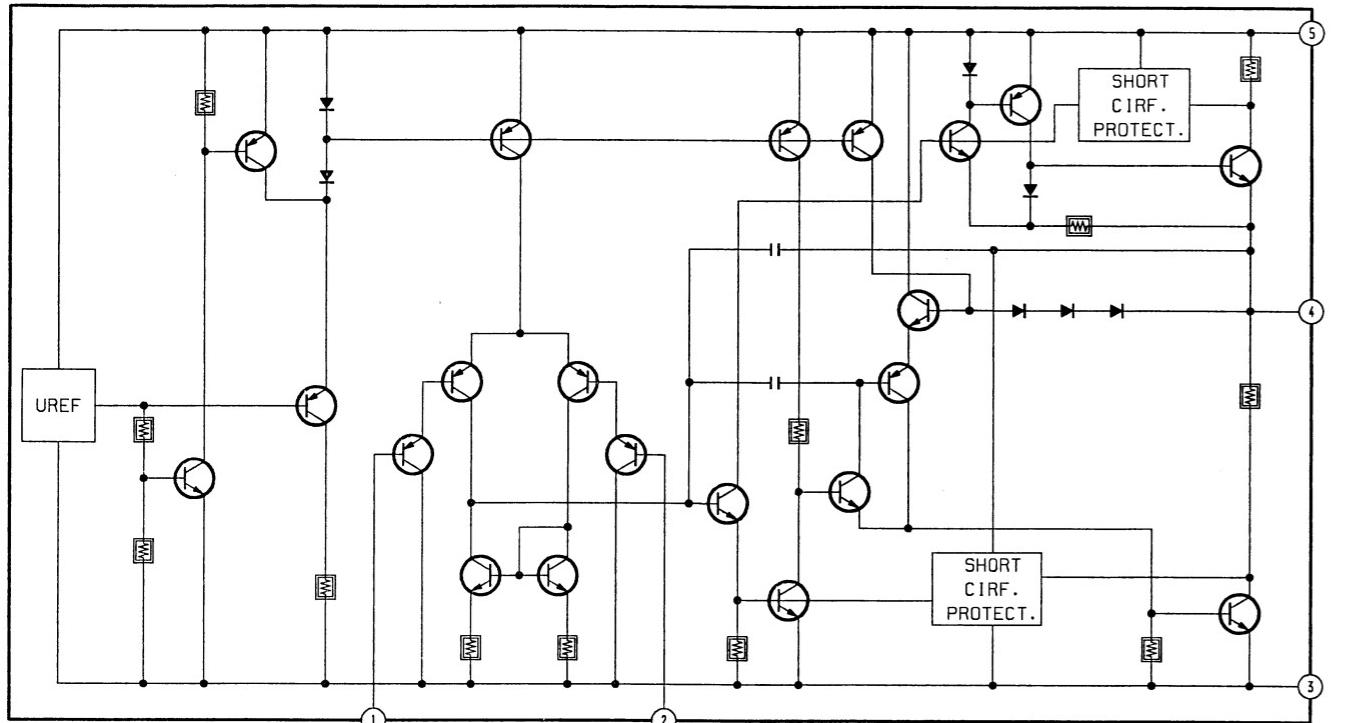


MC-Service

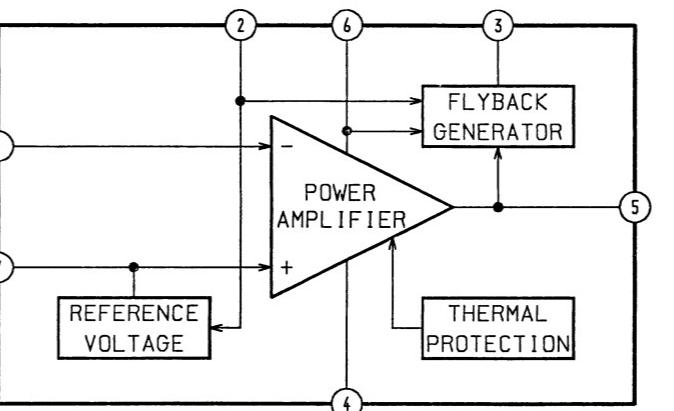
D TUNING CONTROL, POWER CONTROL
AUDIO OUT, H/V OUT

— D Board —

D BOARD IC251/261 TDA2050

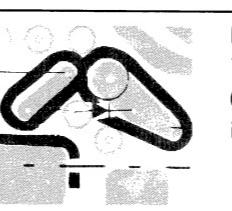


D BOARD IC502 TDA8170

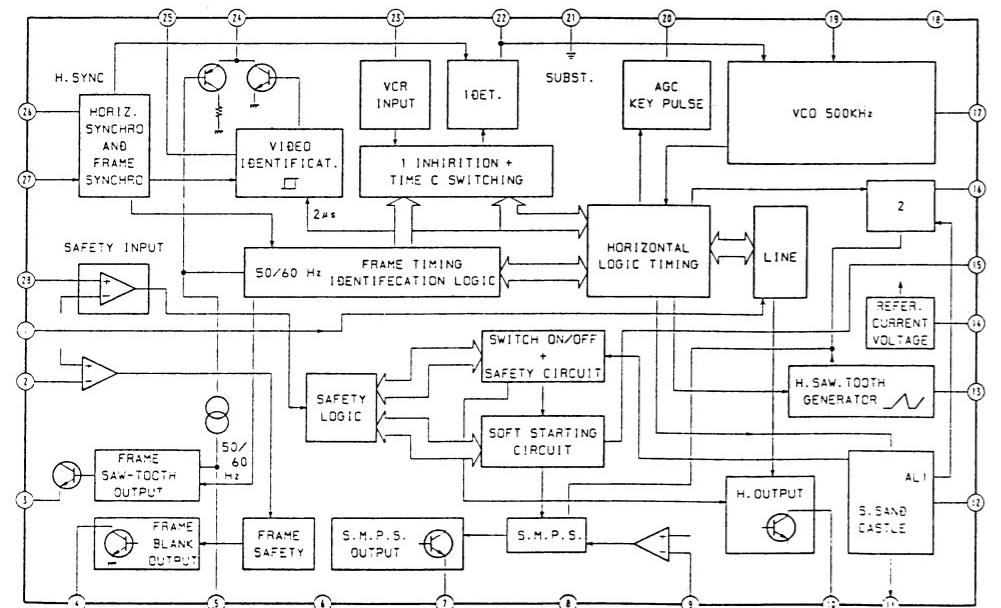


NOTE:

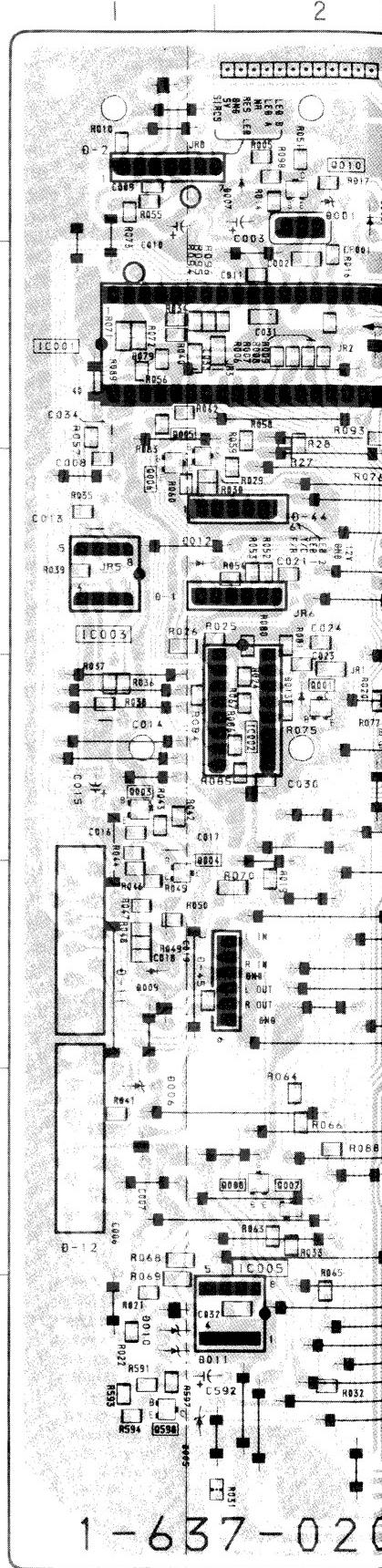
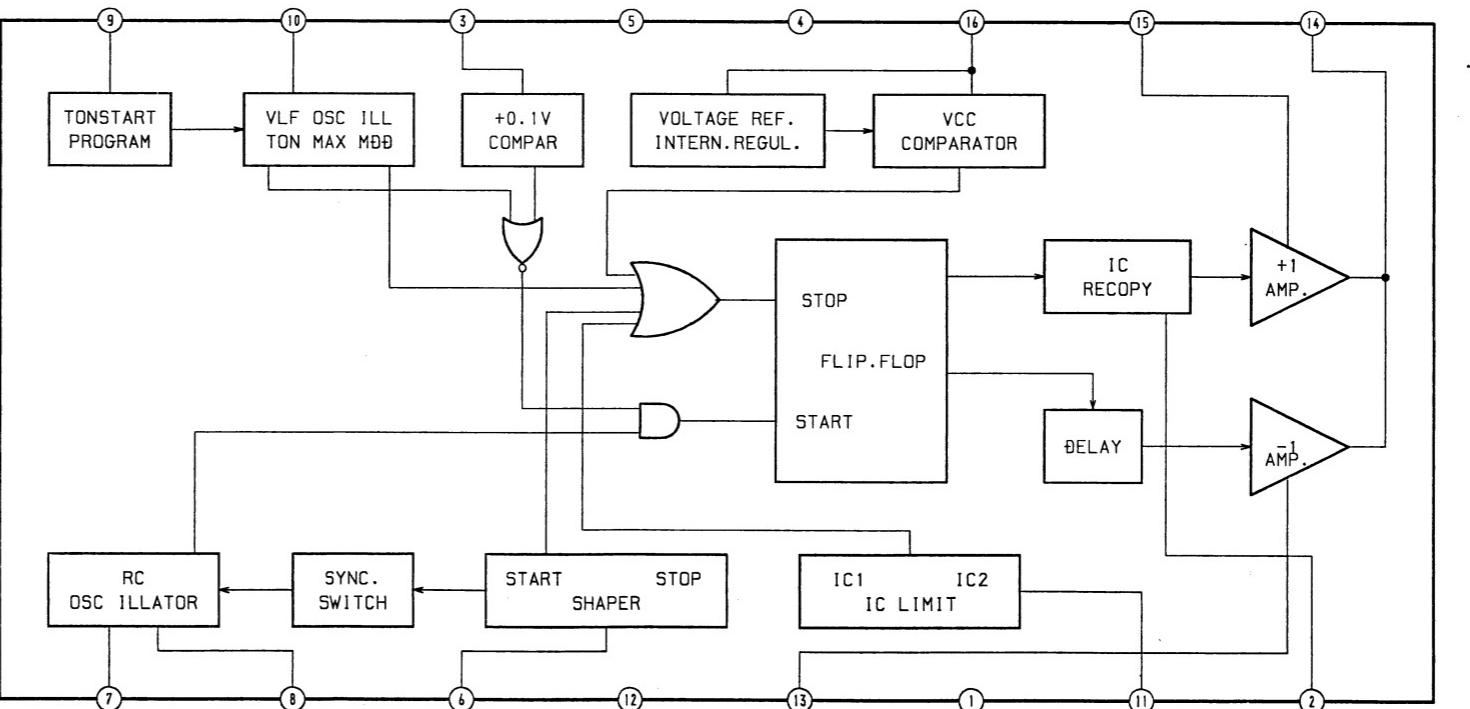
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.



D BOARD IC501 TEA2028B



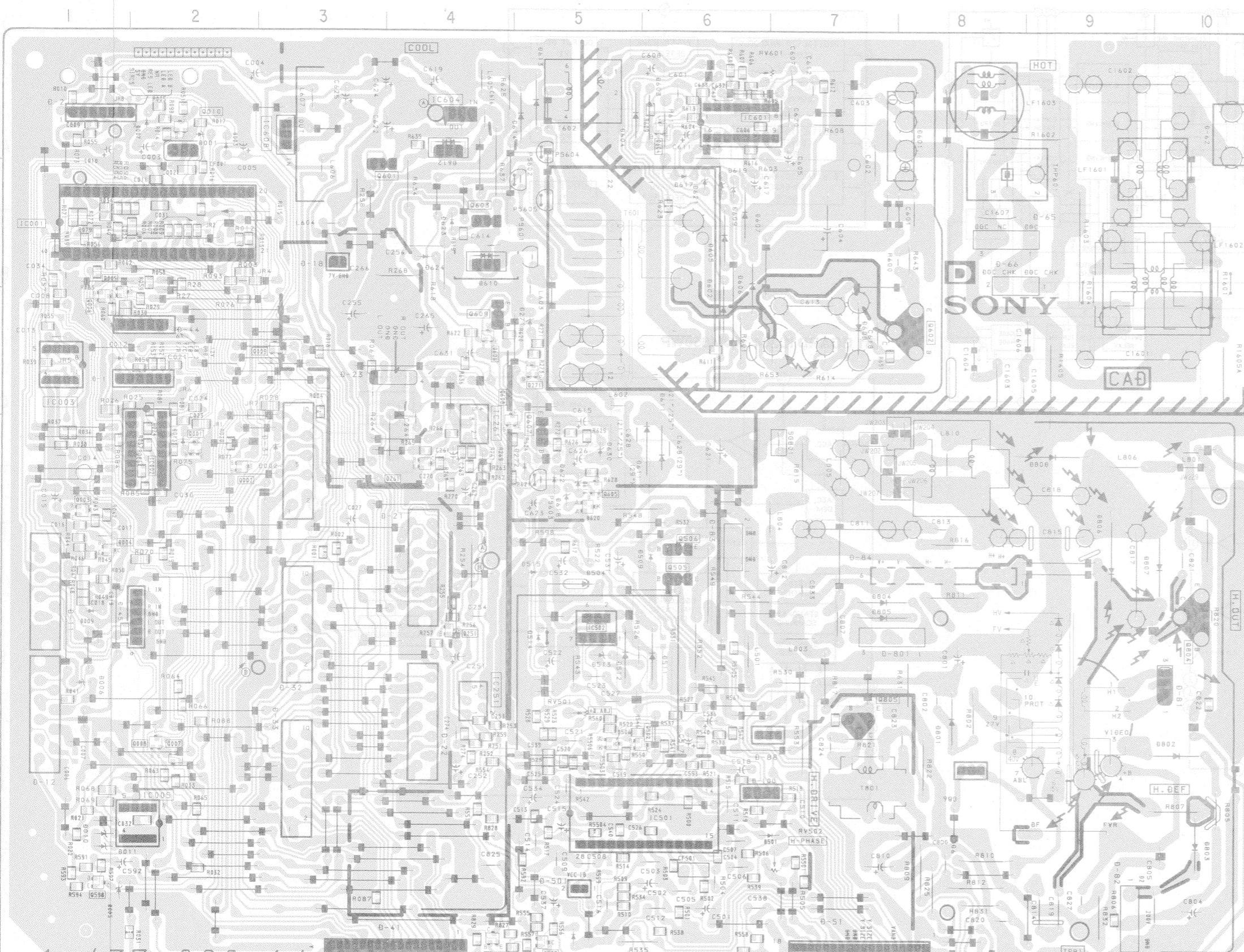
D BOARD IC601 TEA2260



MC-Service

D [TUNING CONTROL, POWER CONTROL]
AUDIO OUT, HV OUT

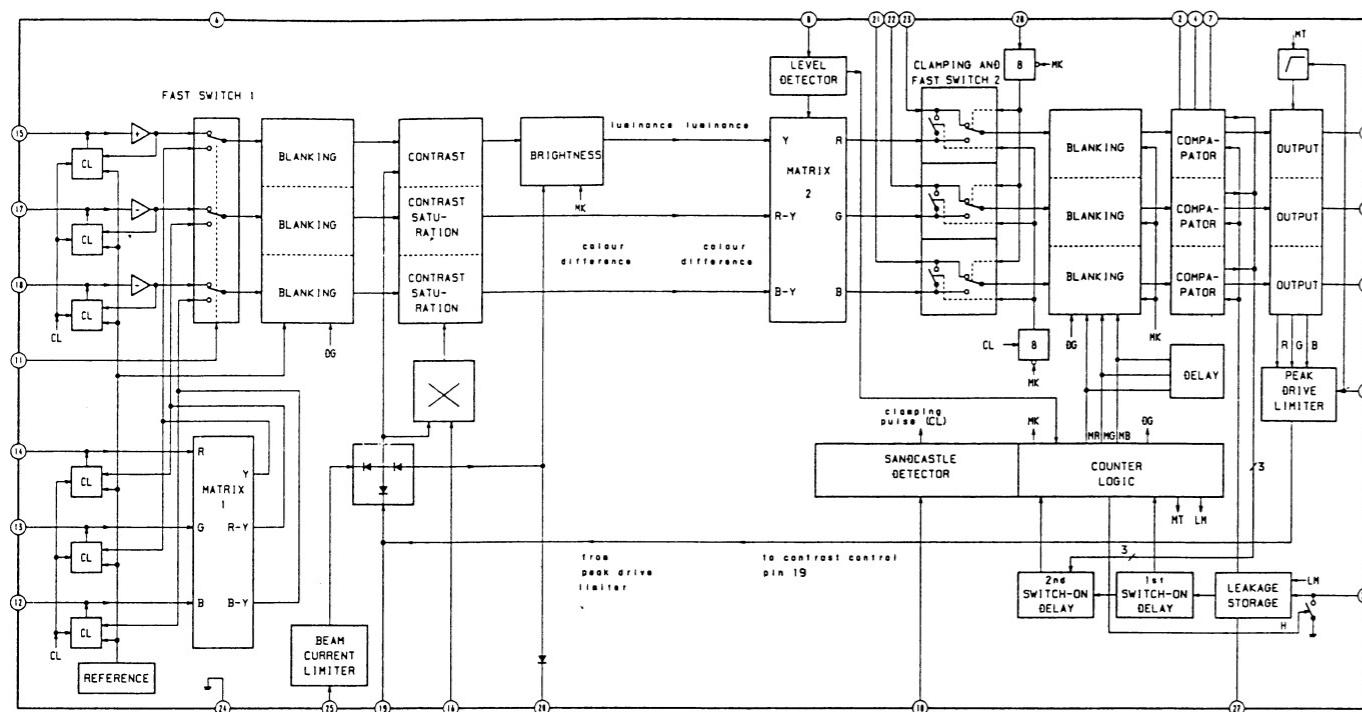
— D Board —



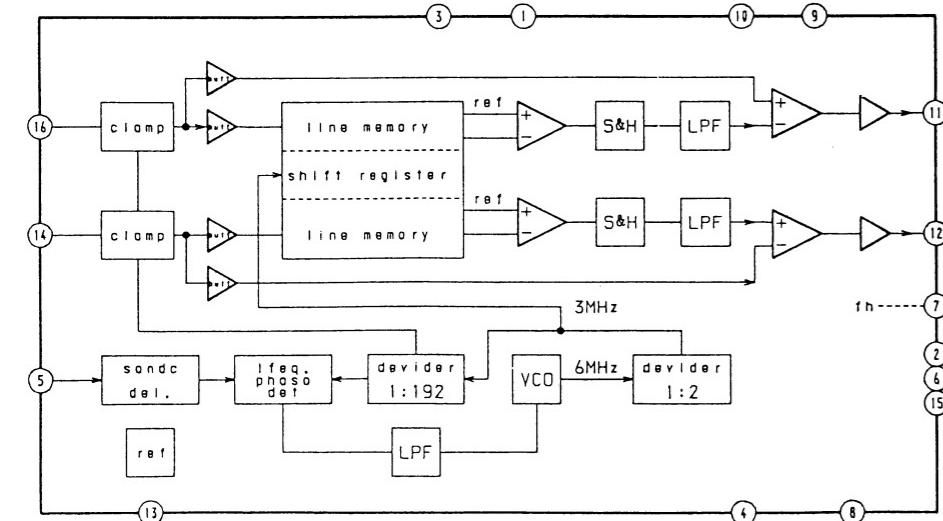
— D Board —

IC	
IC001	B-2
IC002	D-2
IC003	C-5
IC005	D-5
IC251	G-7
IC261	E-5
IC501	F-5
IC502	G-5
IC601	E-6
IC604	E-6
IC608	A-3
D012	C-1
D013	D-2
D271	C-5
D272	D-5
D501	G-7
D504	E-5
D506	F-5
D508	G-5
D509	E-6
D511	E-6
D512	E-5
D513	E-5
D514	E-5
D515	E-5
D601	A-8
D602	C-6
D603	A-6
D604	A-5
D605	B-6
D606	B-6
D607	B-6
D608	C-7
Q001	D-2
Q002	D-2
Q003	D-1
Q004	E-1
Q005	C-1
Q006	C-1
Q007	F-2
Q008	F-2
Q009	C-3
Q010	A-2
Q251	E-4
Q261	D-4
Q271	C-5
Q502	F-2
Q505	E-6
Q506	D-6
Q507	G-5
Q598	G-1
Q601	B-3
Q602	B-4
Q603	D-5
Q604	B-4
Q605	A-6
Q606	D-5
Q607	D-5
Q608	E-7
Q609	E-7
Q801	D-4
Q804	G-4
Q805	E-10
Q807	F-7
RV501	F-5
RV502	G-7
RV601	A-6
TP	
TP91	G-9

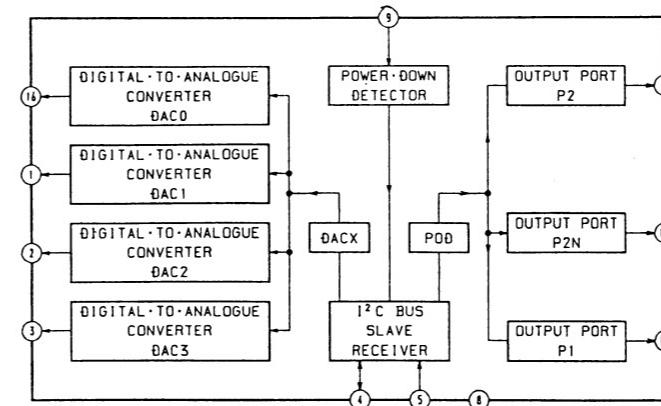
B1 BOARD IC301 TDA4580-V7



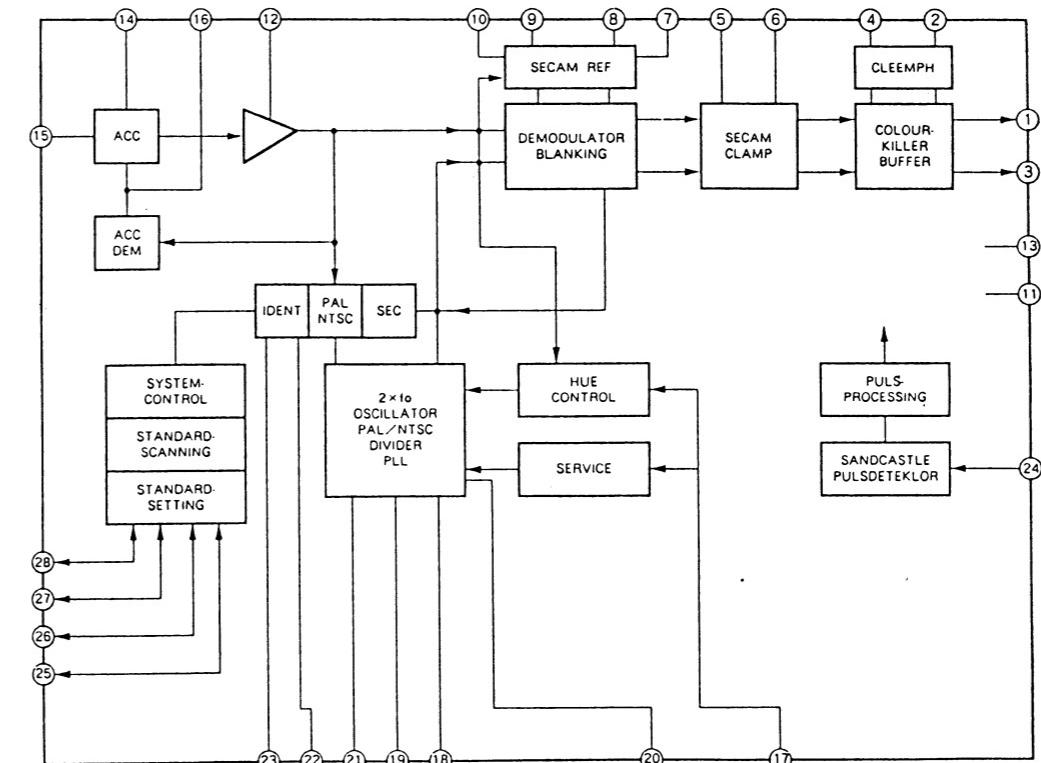
B1 BOARD IC303 TDA4660T



B1 BOARD IC302 TDA8442-N3



B1 BOARD IC304 TDA4650WP

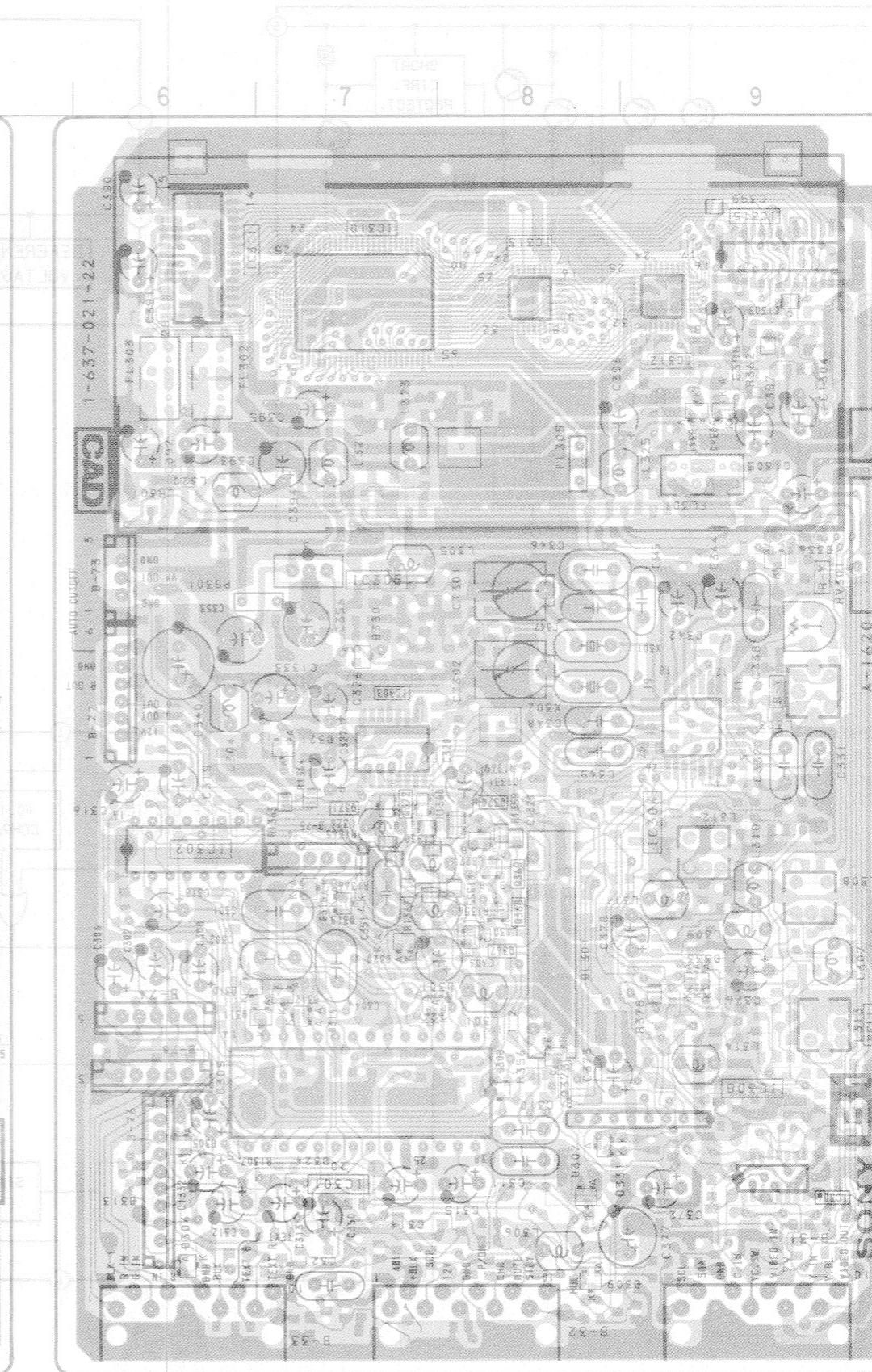
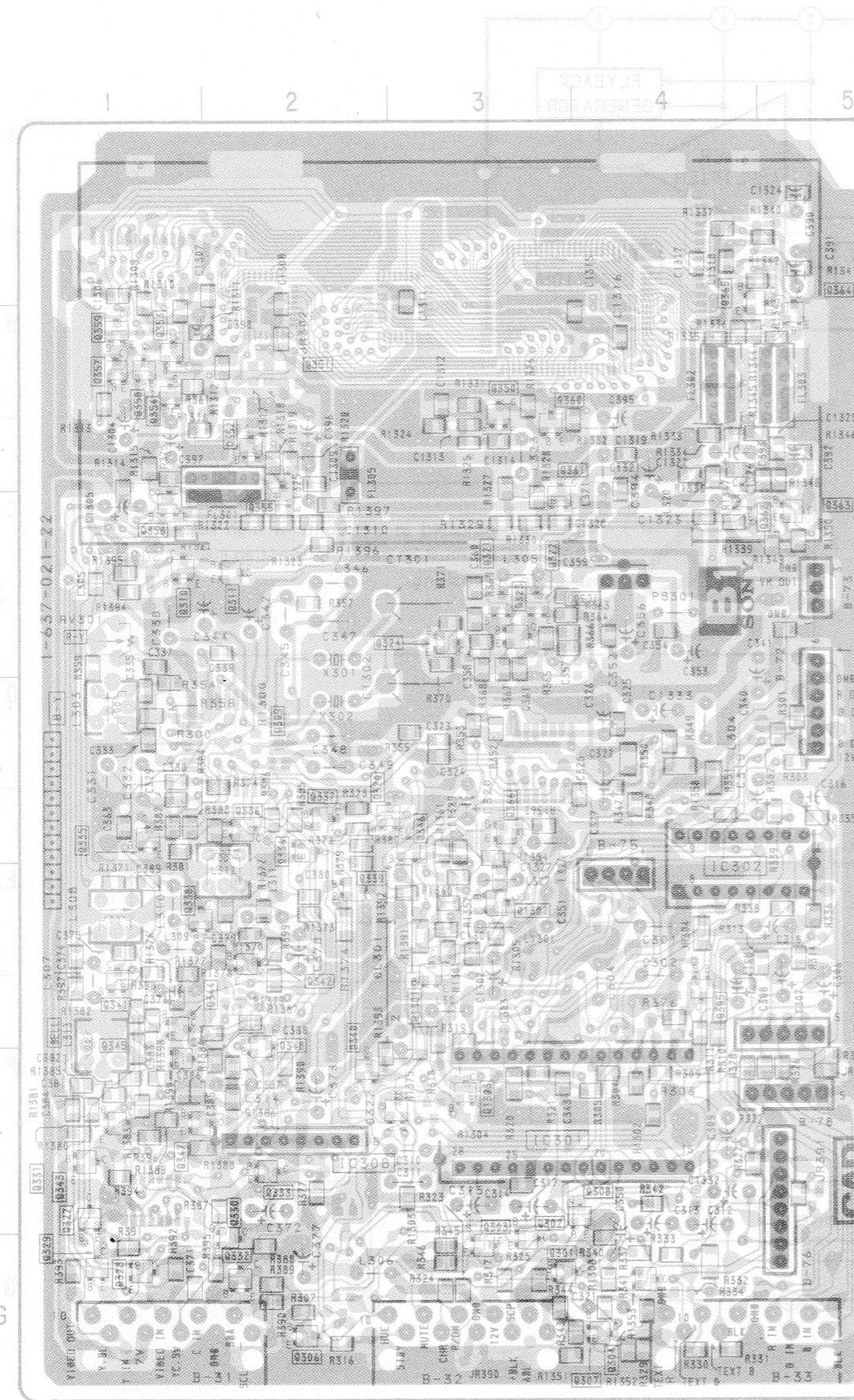


MC-Service

B1

VIDEO PROCESSOR, COLOR PROCESSOR
Y/C SW, D/A CONVERTER, MEMORY
A/D CONVERTER

— B1 Board —

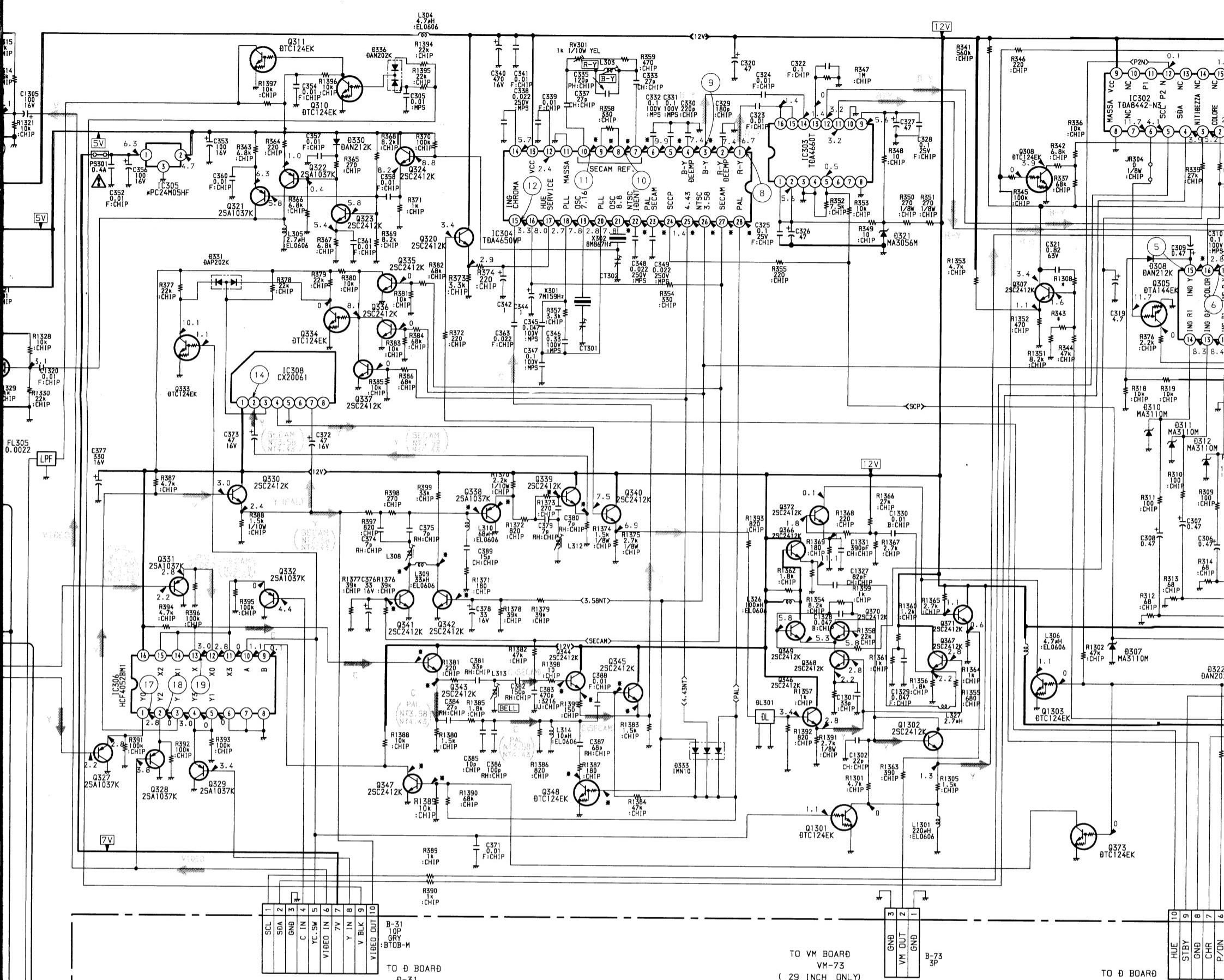


- : pattern from the side which enables seeing.
- : pattern of the rear side.

— B1 Board —

IC	
IC301	E - 6
IC302	D - 5
IC303	C - 6
IC304	C - 7
IC305	B - 6
IC306	E - 8
IC308	E - 7
IC310	A - 6
IC311	A - 5
IC312	A - 7
IC313	A - 6
IC315	A - 7
Q301	E - 3
Q302	E - 3
Q303	E - 3
Q304	F - 3
Q305	D - 4
Q306	F - 2
Q307	F - 3
Q308	E - 3
Q310	C - 1
Q311	C - 1
Q320	C - 2
Q321	B - 2
Q322	B - 3
Q323	C - 3
Q324	C - 2
Q327	E - 1
Q328	E - 1
Q329	E - 1
Q330	E - 1
Q331	E - 1
Q332	E - 1
Q333	E - 2
Q334	D - 2
Q335	D - 1
Q336	C - 1
Q337	C - 2
Q338	D - 1
Q339	D - 2
Q340	D - 2
Q341	D - 1
Q342	D - 2
Q343	E - 1
Q344	D - 1
Q345	D - 1
Q346	D - 2
Q347	E - 1
Q348	D - 2
Q350	B - 3
Q352	B - 1
Q353	A - 1
Q354	B - 1
Q355	B - 2
Q356	C - 1
Q357	B - 1
Q358	B - 1
Q359	B - 1
VARIABLE RESISTOR	
RV301	C - 8
TRIMMER	
CT301	C - 6
CT302	C - 6
COIL	
L303	C - 8
L308	D - 8
L312	D - 7
L313	D - 8

A**B****C****D****E****F****G****H****I****J****K****L****M****N****O****P****Q****R****S****T****U****V****W****X****Y****Z****AA****BB****CC****DD****EE****FF****GG****HH****II****JJ****KK****LL****MM****NN****OO****PP****QQ****RR****SS****TT****UU****VV****WW****XX****YY****ZZ****AA****BB****CC****DD****EE****FF****GG****HH****II****JJ****KK****LL****MM****NN****OO****PP****QQ****RR****SS****TT****UU****VV****WW****XX****YY****ZZ****AA****BB****CC****DD****EE****FF****GG****HH****II****JJ****KK****LL****MM****NN****OO****PP****QQ****RR****SS****TT****UU****VV****WW****XX****YY****ZZ****AA****BB****CC****DD****EE****FF****GG****HH****II****JJ****KK****LL****MM****NN****OO****PP****QQ****RR****SS****TT****UU****VV****WW****XX****YY****ZZ****AA****BB****CC****DD****EE****FF****GG****HH****II****JJ****KK****LL****MM****NN****OO****PP****QQ****RR****SS****TT****UU****VV****WW****XX****YY****ZZ****AA****BB****CC****DD****EE****FF****GG****HH****II****JJ****KK****LL****MM****NN****OO****PP****QQ****RR****SS****TT****UU****VV****WW****XX****YY****ZZ****AA****BB****CC****DD****EE****FF****GG****HH****II****JJ****KK****LL****MM****NN****OO****PP****QQ****RR****SS****TT****UU****VV****WW****XX****YY****ZZ****AA****BB****CC****DD****EE****FF****GG****HH****II**

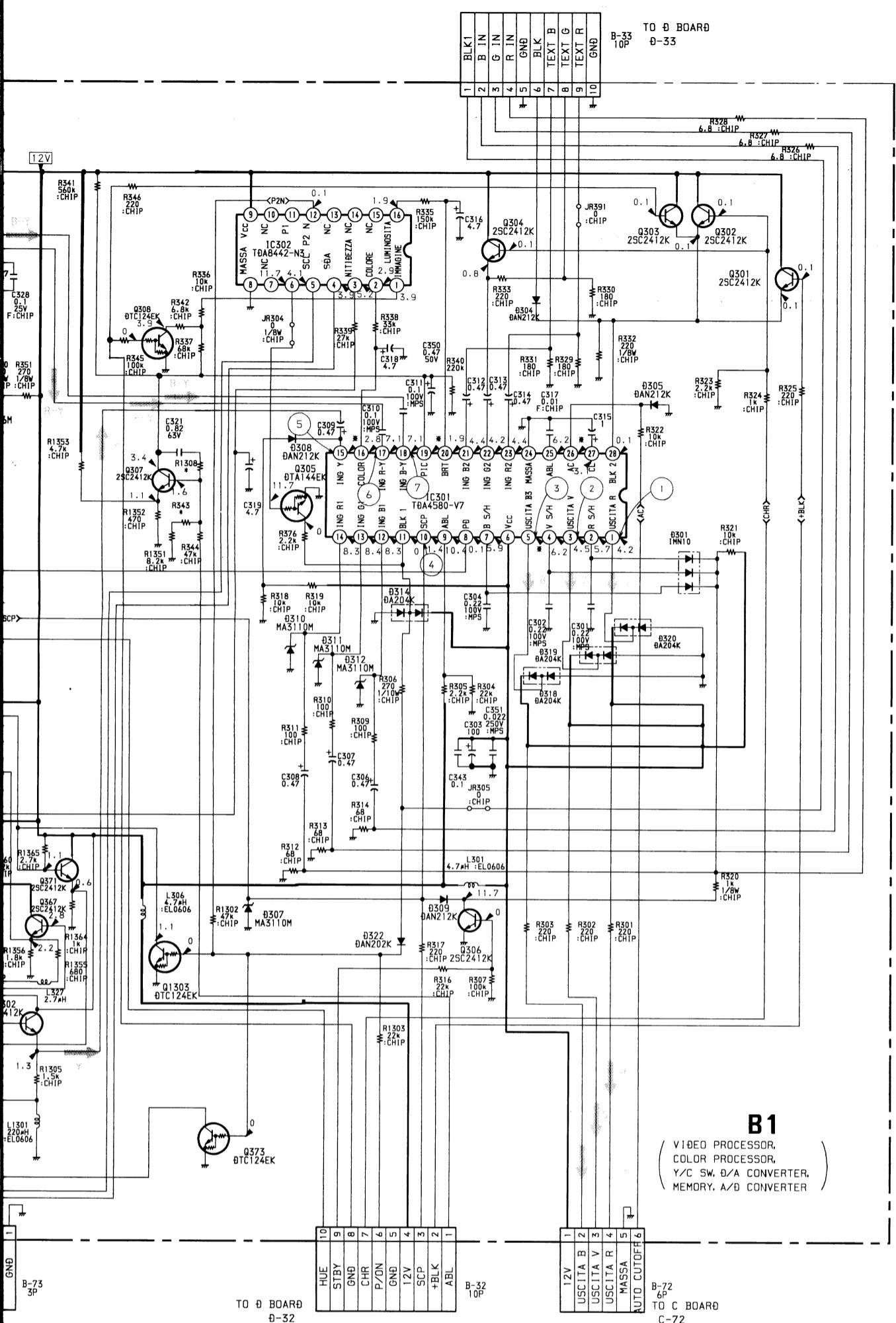


MC-Service

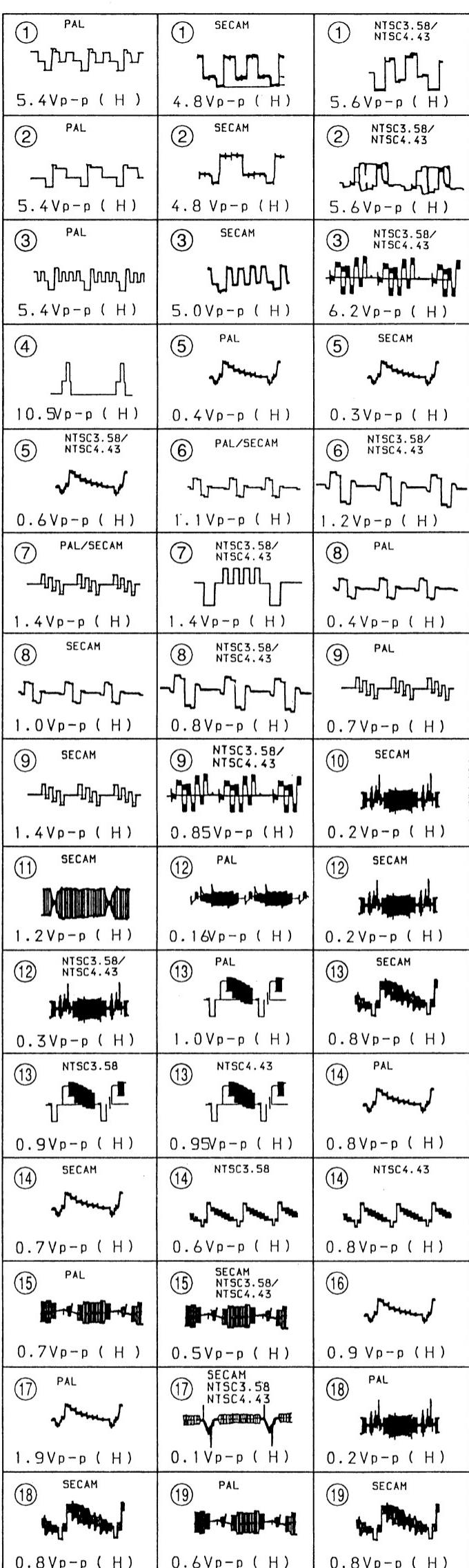
— B1 Board —

As to the voltage
make \otimes on the Schematic
the another list.

IC-NO	PIN-NO	PAL	SECAM	NTSC
IC301	(5) (15) (19) (26)	5.1 7.3 3.1 6.6	4.8 7.0 3.4 6.6	
	(3) (5) (7) (8) (9) (10) (21) (22) (23) (25) (26) (27) (28)	6.8 9.9 4.3 3.4 3.4 4.3 2.3 5.6 7.5 0 0 0 5.9	6.8 10.1 3.5 3.0 3.0 3.4 3.1 5.6 7.5 0.14 0 0 0	
IC304				



— B1 Board —



MC-Service

As to the voltage value shown by the make ~~X~~ on the Schematic Diagram, see the another list.

— B1 Board —

IC·NO	PIN·NO	PAL	SECAM	NTSC 3.38	NTSC 4.43
IC301	(5)	5.1	4.8	4.8	4.8
	(15)	7.3	7.0	7.0	7.0
	(19)	3.1	3.4	3.8	3.4
	(26)	6.6	6.6	6.0	6.3
IC304	(3)	6.8	6.8	6.9	6.8
	(5)	9.9	10.1	9.9	9.9
	(7)	4.3	3.5	4.6	4.6
	(8)	3.4	3.0	3.4	3.4
	(9)	3.4	3.0	3.4	3.4
	(10)	4.3	3.4	4.6	4.6
	(21)	2.3	3.1	3.1	2.3
	(22)	5.6	5.6	5.6	7.4
	(23)	7.5	7.5	5.7	5.7
	(25)	0	1.4	5.9	5.9
	(26)	0	0	0	0
	(27)	0	5.9	0	0
	(28)	5.9	0	0	0

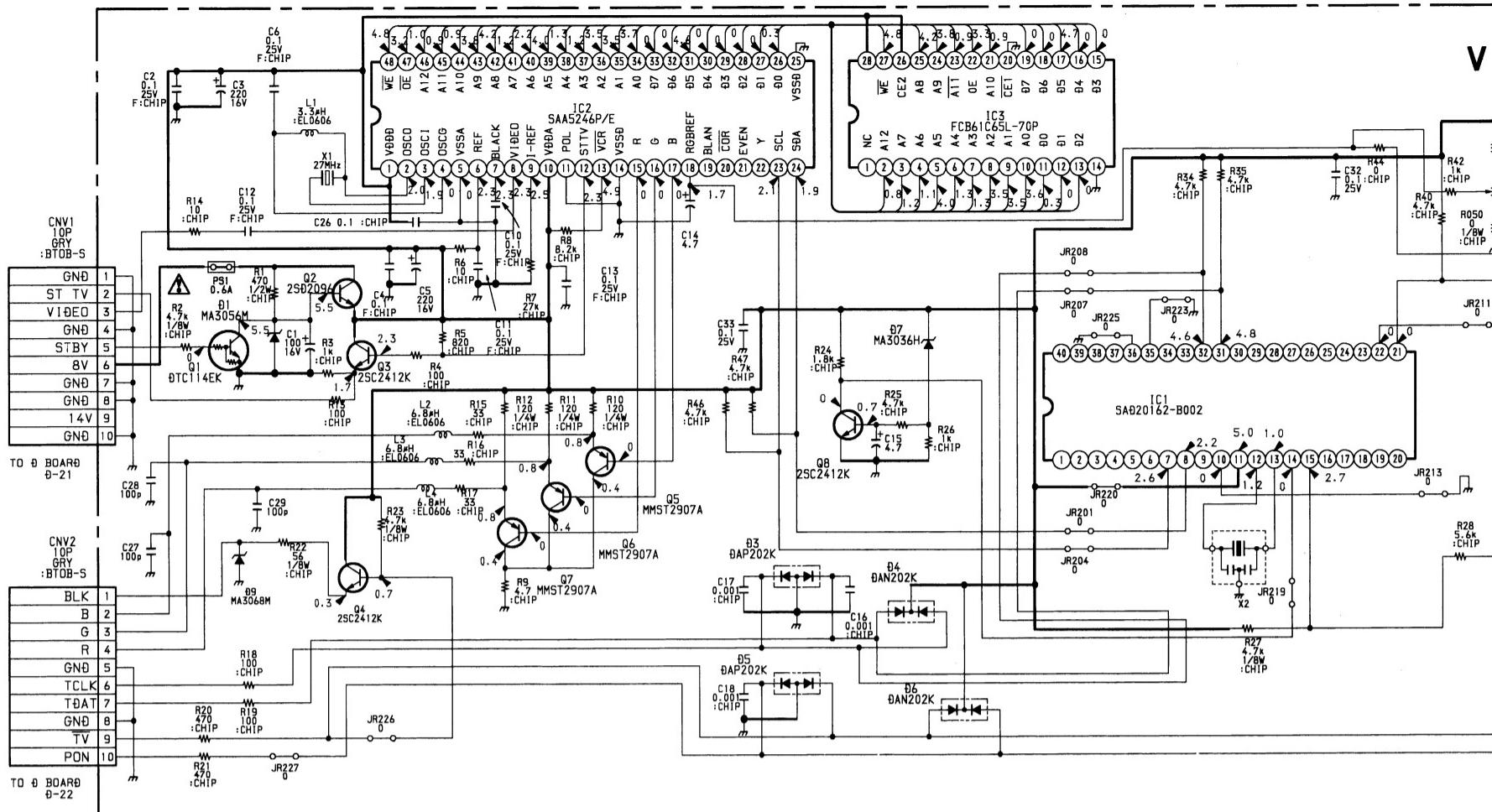
Q·NO		PAL	SECAM	NTSC 3.38	NTSC 4.43
Q338	B	2.6	3.9	3.9	3.9
	E	3.3	4.6	4.6	4.6
Q339	B	3.2	4.6	4.6	4.6
	E	3.6	3.9	3.9	3.9
Q341	B	0	0.6	0.4	0.1
	C	11.8	0	11.6	11.6
Q342	B	0	0	0.4	0
	C	11.7	0	11.7	11.7
Q343	B	3.2	5.3	5.3	5.3
	E	2.6	4.6	4.7	4.7
Q344	B	0	5.4	1.0	0.1
	E	4.0	4.8	1.5	4.5
Q345	B	4.6	0.1	1.9	5.0
	E	4.0	4.4	1.4	4.4
Q347	B	0.6	0	0	0
	C	0.1	11.9	11.9	11.9
Q348	B	0.1	0.1	1.0	0.1
	C	0.4	0.2	0.2	0.4

— B1 BOARD * MARK —

	KV-A2121Ø	KV-A2521Ø	KV-A2921Ø
B-73	OPEN	OPEN	3P
R343	220 1/10W	270 1/10W	1.2K 1/10W
R1308	0 1/10W	0 1/10W	4.7K 1/10W

V Board

A



D

F

G

H

J

K

L

M

N

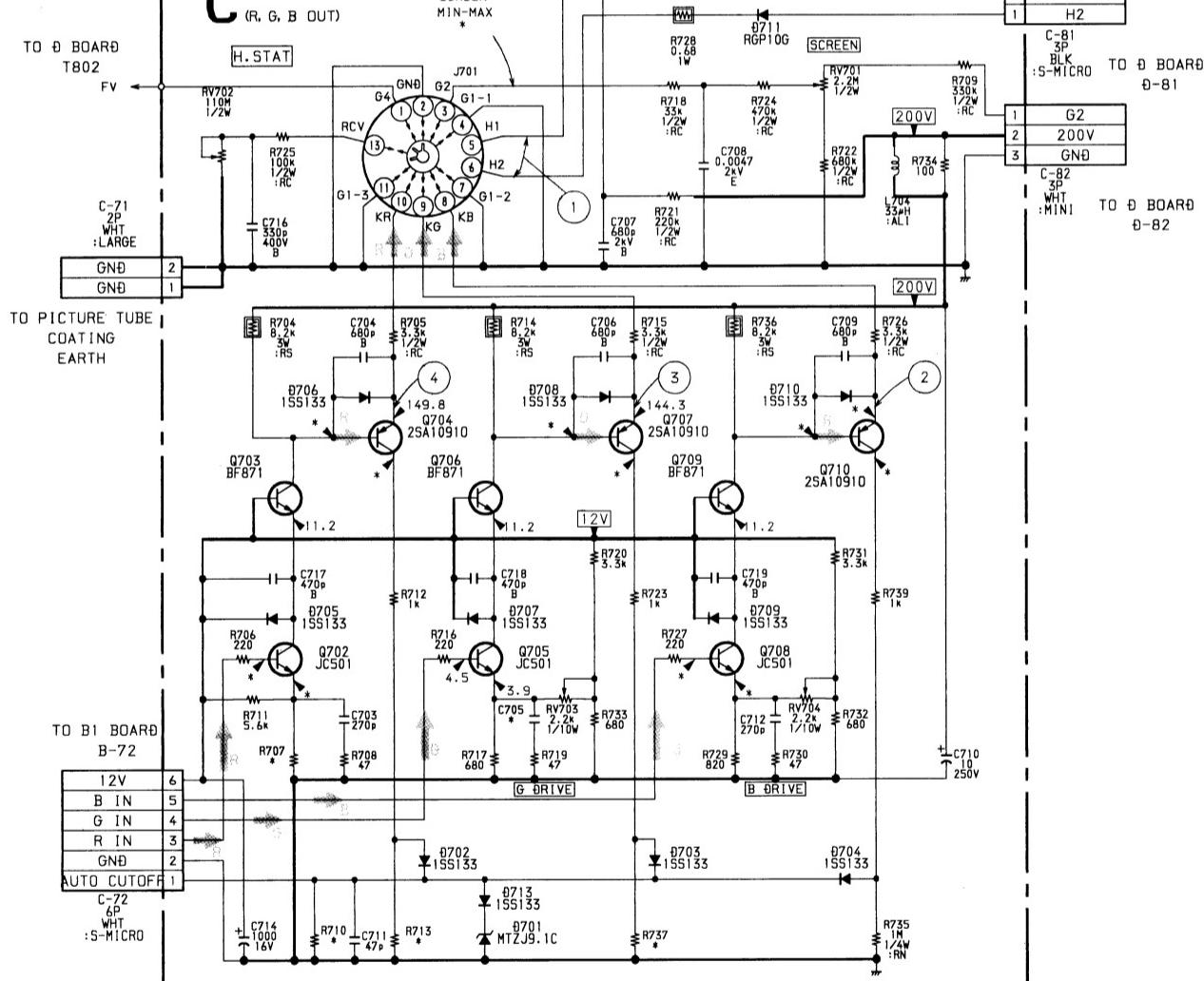
O

P

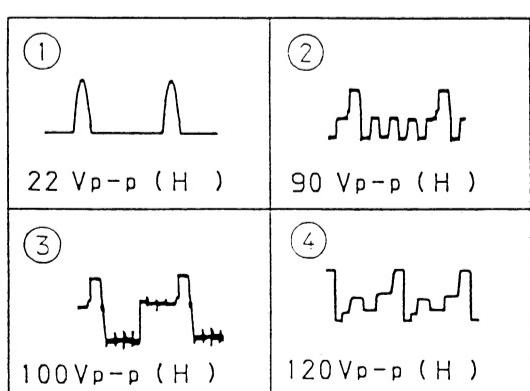
V Board

B-SS4172C

IC1	MAB8461P-W208	MICRO-CONT
IC2	SAAS246E	IVT
IC3	FCB61C65L-70P	STATIC-RAM
Q1	0TC114EK	STAND BY
Q2	2SD2096	5V REG
Q3	2SC2412K	SYNC BUFFER
Q4	2SC2412K	BLK OUT
Q5	MMST2907A	B OUT
Q6	MMST2907A	G OUT
Q7	MMST2907A	R OUT
Q8	2SC2412K	P ON SW
D1	MA3056M	5V REG
D3	DAP202K	PROTECT
D4	DAN202K	PROTECT
D5	DAP202K	PROTECT
D6	DAN202K	PROTECT
D7	MA3036H	PROTECT
D9	MA3068M	PROTECT



B-YS54161<UK.>-C... . P1

C Board**C Board**

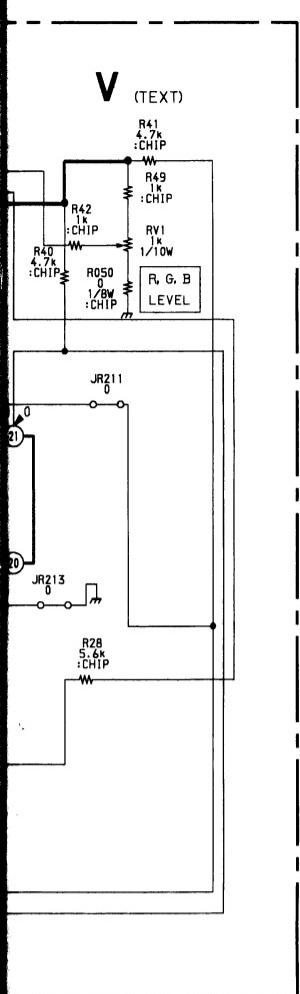
As to the voltage value shown by the make * on the Schematic Diagram, see the another list.

	KV-A2121D	KV-A2521D	KV-A2921D
Q702	B 3.8 E 3.2	4.2 3.6	-
Q703	C 153.8	145.8	-
Q704	C 4.7 E 149.8	5.3 138.9	-
Q706	C 149.0	145.5	-
Q707	B 149.0 C 4.9 E 144.3	145.5 6.0 141.6	-
Q708	B 5.1 E 4.5	4.7 4.1	-
Q709	C 151.0	131.5	-
Q710	C 151.0 E 145.8	131.5 7.2 126.9	-
SCREEN	MIN 170.9 MAX 907	201 926	-

C BOARD * MARK

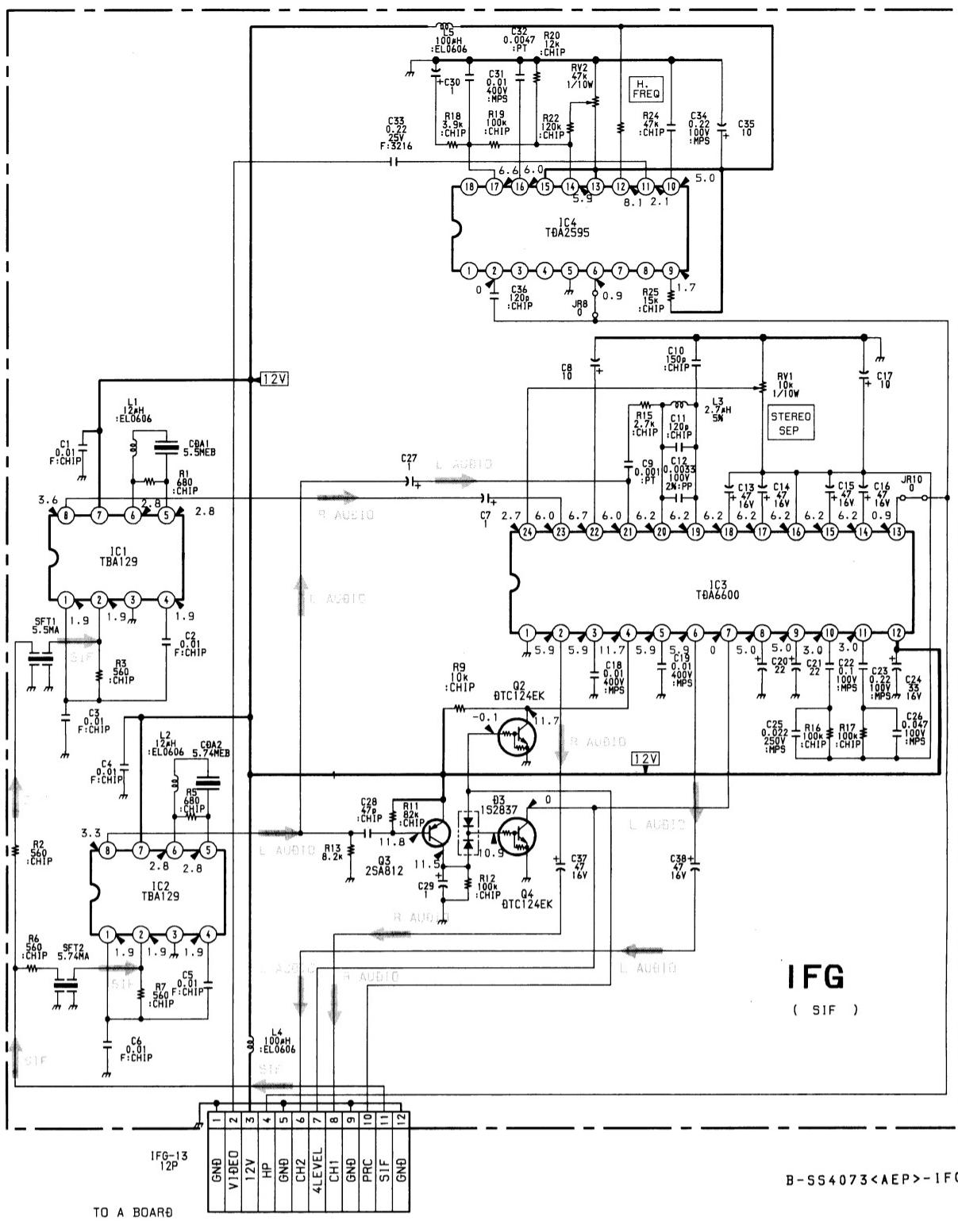
	KV-A2121D	KV-A2521D
C705	180P	220P
R707	430	390
R710	100K 1/4W 1%	68K 1/4W 1%
R713	160K 1/4W 1%	120K 1/4W 1%
R737	390K 1/4W 1%	820K 1/4W 1%

MC-Service



B-554172<AEP>-V..

CONT
-RAM
BY
UFFER
W

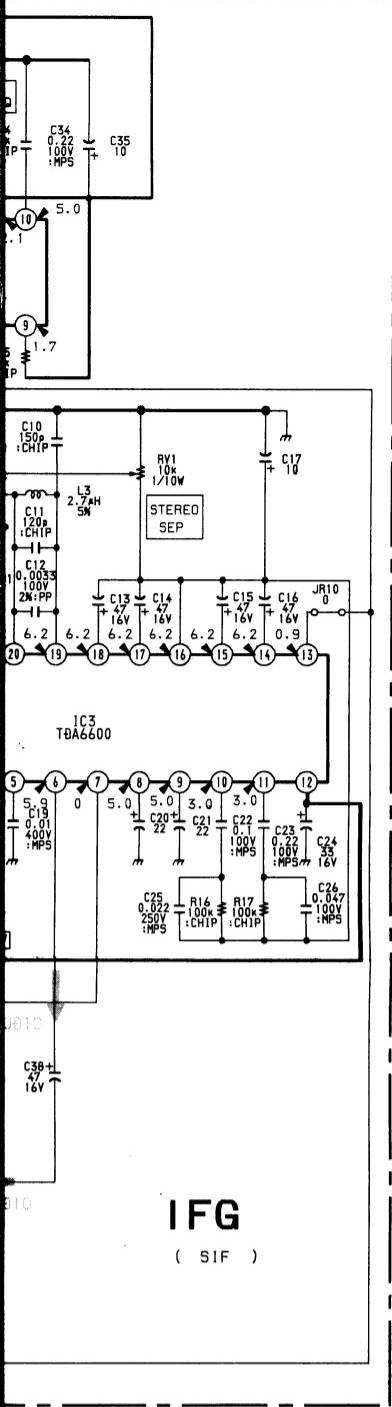


— IFG Board —

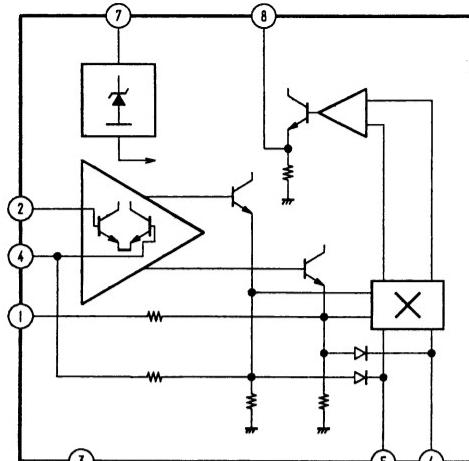
IC1	TBA129	5.5 DET
IC2	TBA129	5.74DET
IC3	TDA6600	SIF DET AMP
IC4	TDA2595	H.FREQ AMP
Q2	DTC124EK	SW
Q3	2SA812	SW
Q4	DTC124EK	SW
Q3	IS2837	SW

MC-Service

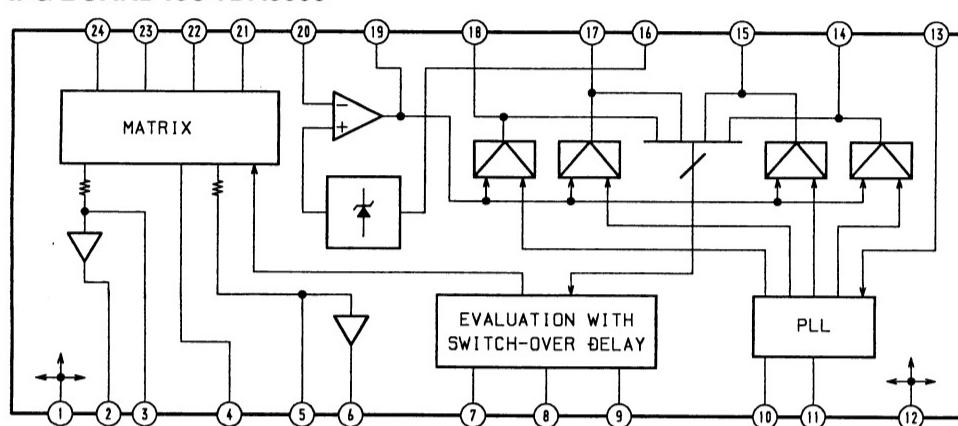
KV-A2521D	KV-A2921D
220P	220P
390	390
68K 1/4W 1%	68K 1/4W 1%
120K 1/4W 1%	120K 1/4W 1%
820K 1/4W 1%	470K 1/4W 1%



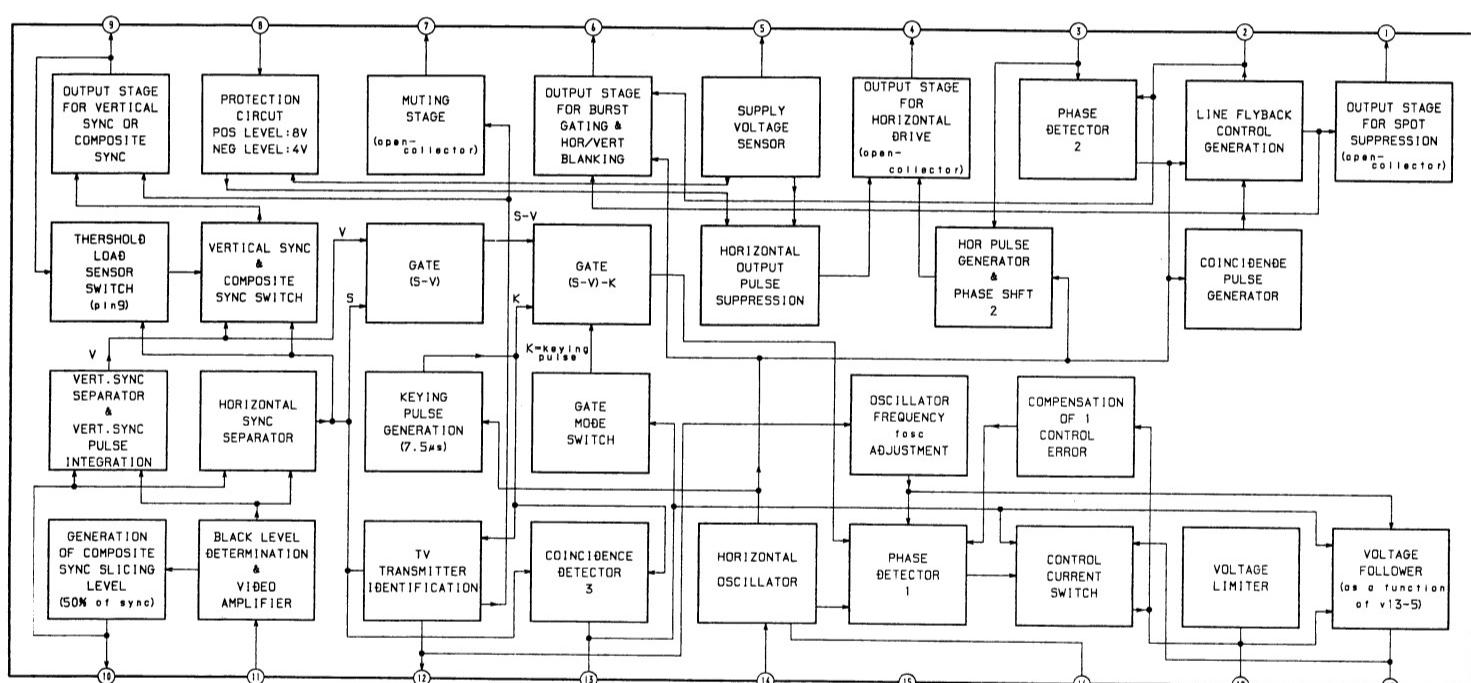
IFG BOARD IC1/IC2 TBA129



IFG BOARD IC3 TDA6600



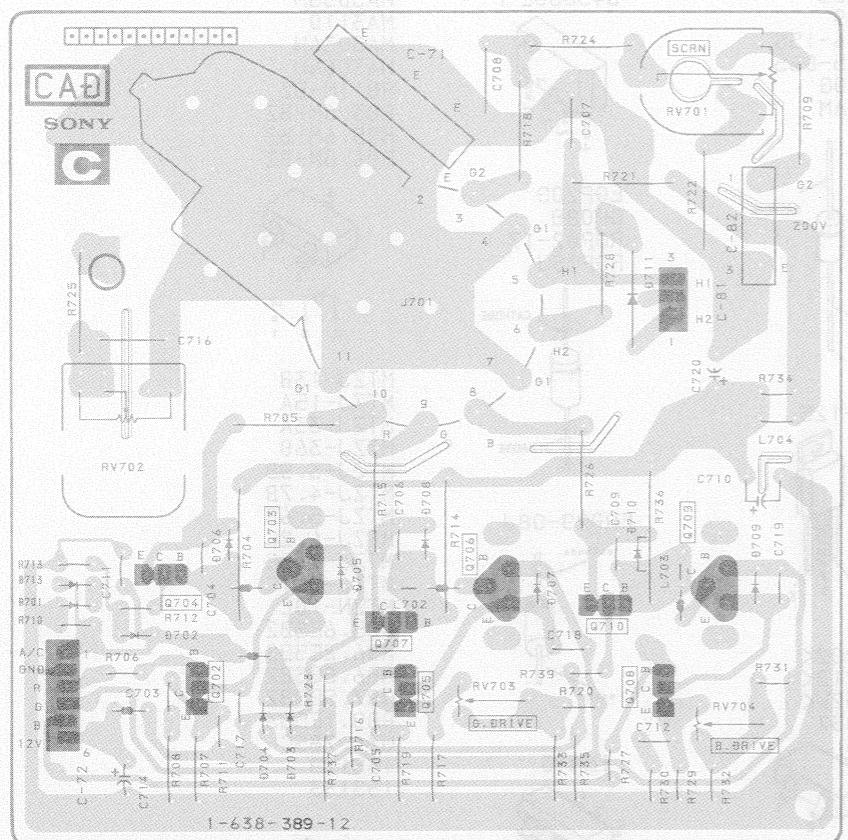
IFG BOARD IC4 TDA2595



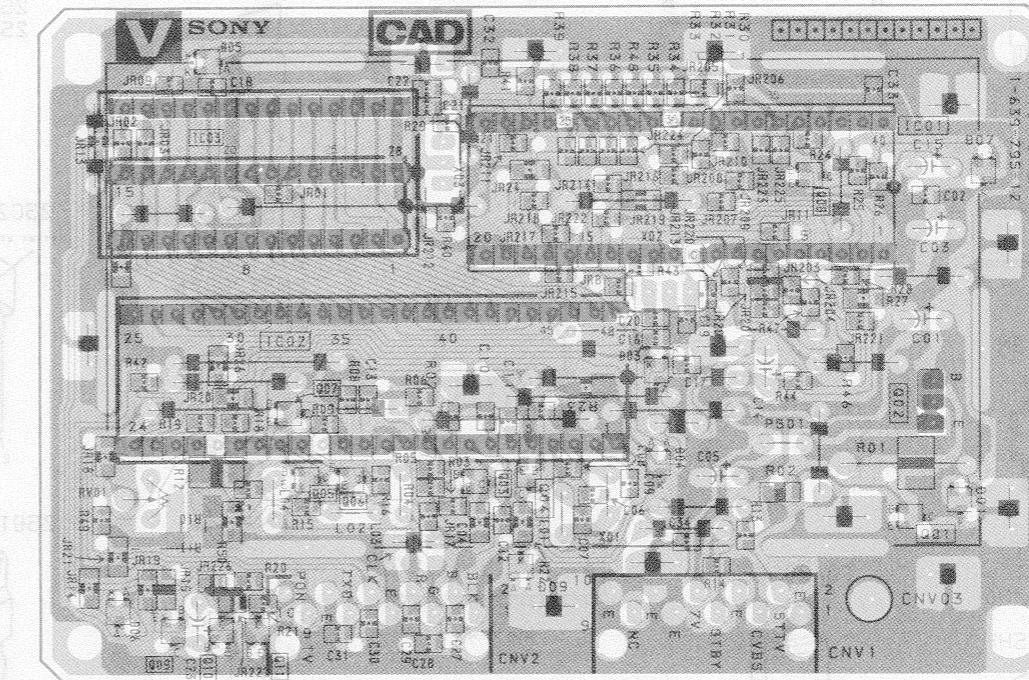
MC-Service

C**IFG**

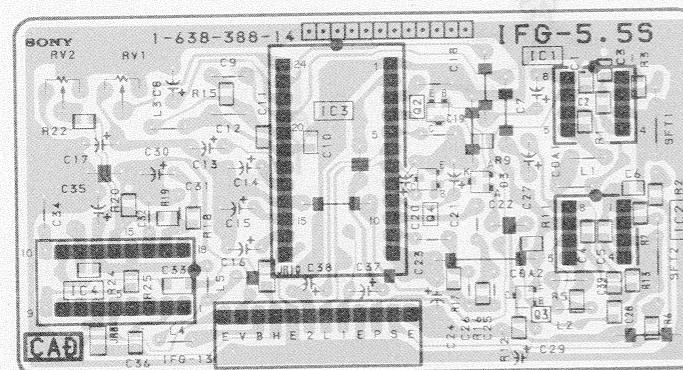
[SIF]

— C Board —**V**

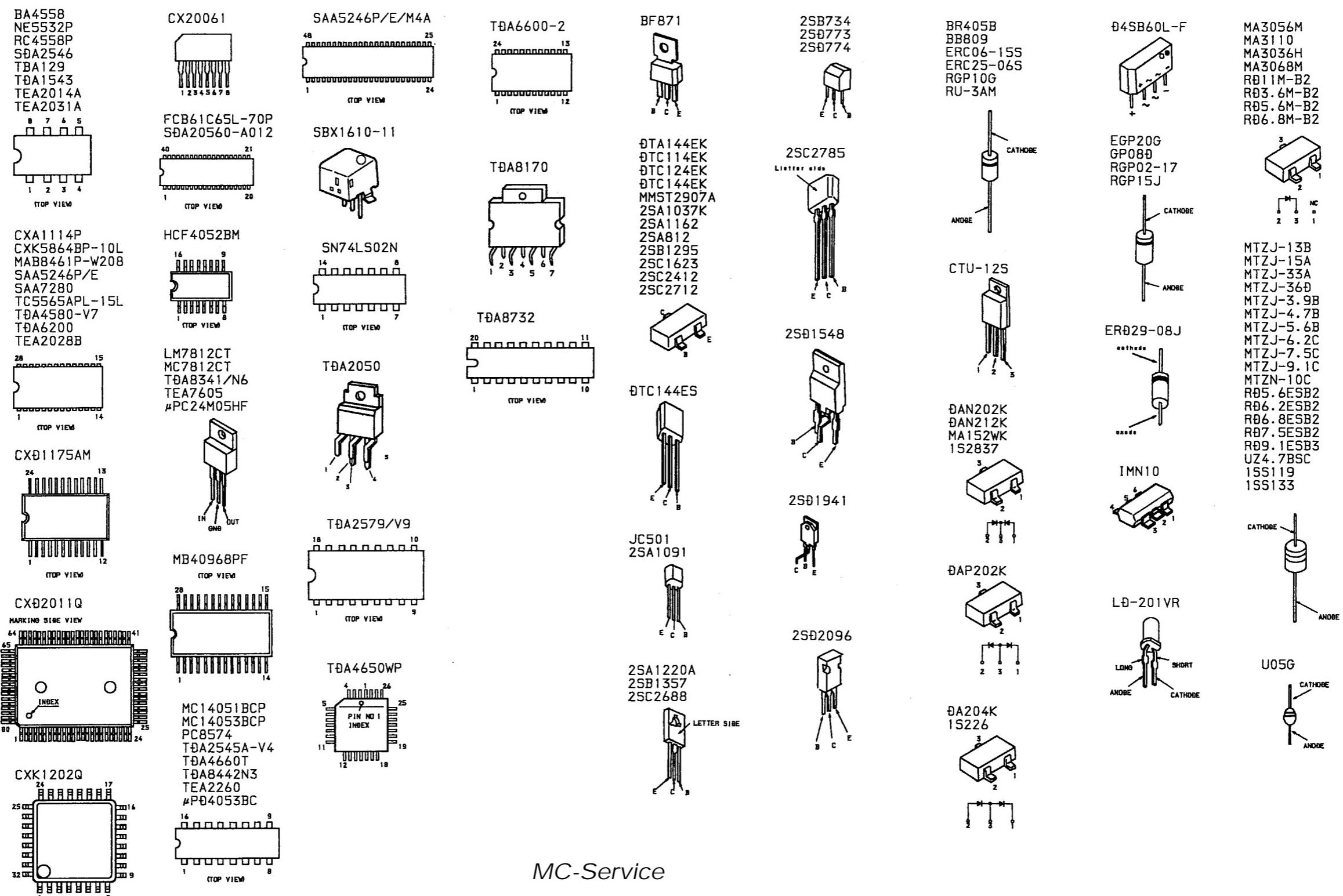
[TELE TEXT]



- : pattern from the side which enables seeing.
- : pattern of the rear side.

— IFG Board —**MC-Service**

5-4. SEMICONDUCTORS



MC-Service

SECTION 6

EXPLODED VIEWS

NOTE:

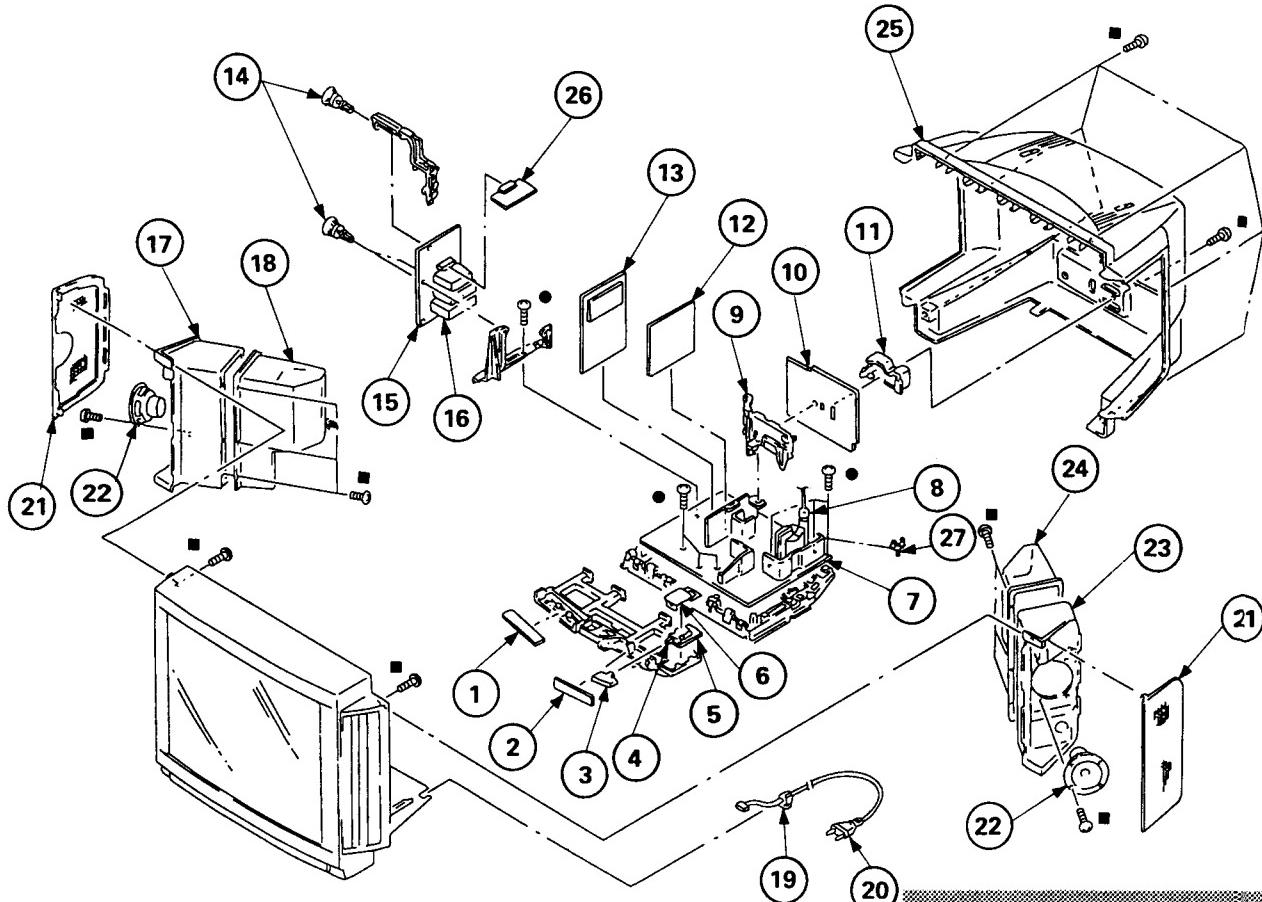
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

6-1. CHASSIS (KV-A2121D)

- : BVTP3x12 7-685-648-79
- : BVTP4x16 7-685-663-79

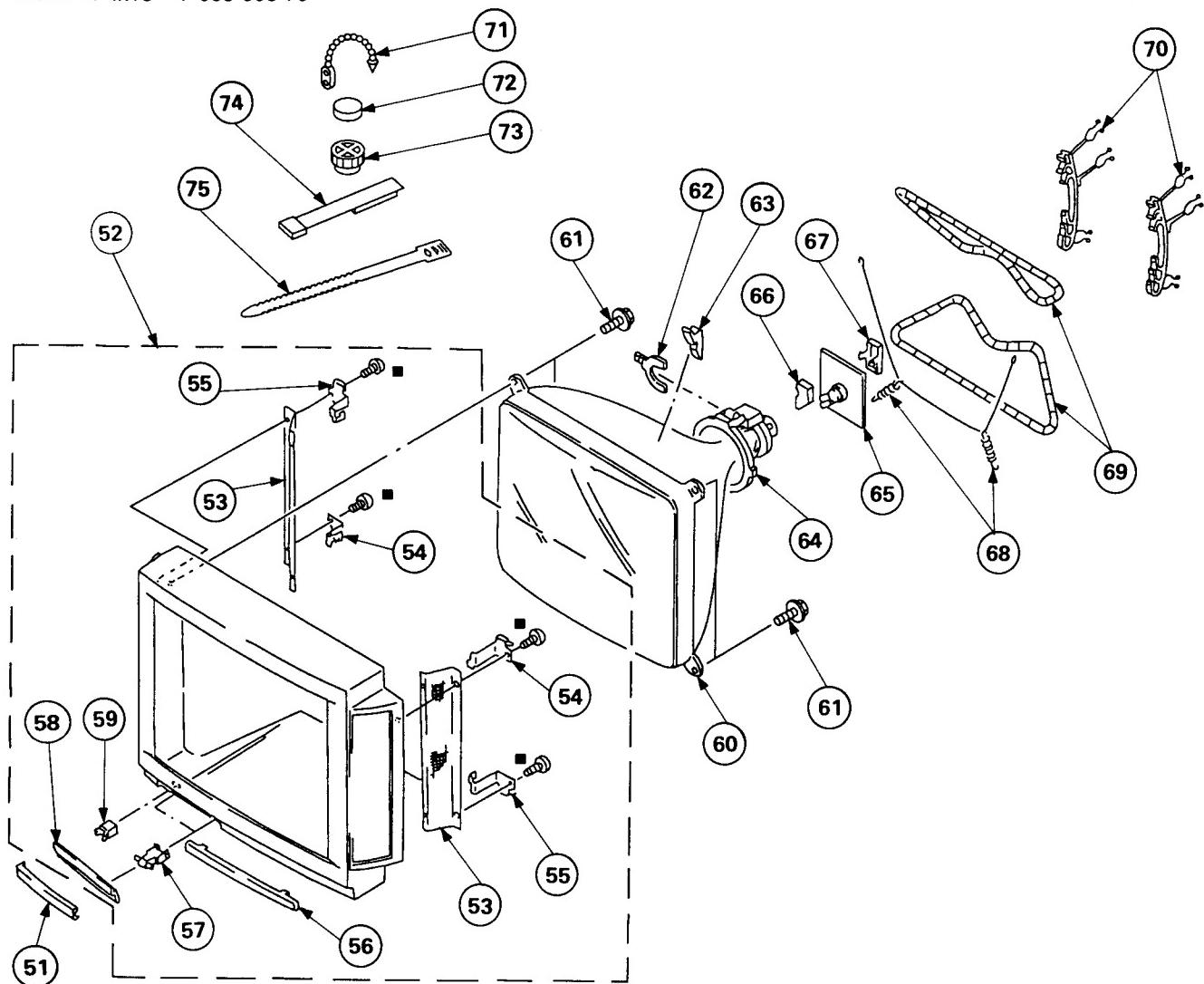


The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
1	*1-638-391-11	H1 BOARD		15	*A-1632-022-A	A BOARD, COMPLETE	
2	*1-638-392-11	H2 BOARD		16	Δ 1-465-301-11	TUNER, BT (UV-816(PLL))	
3	4-031-044-01	BUTTON, POWER		17	*4-031-056-01	BOARD (LBFT), BAFFLE	
4	Δ 1-571-433-12	SWITCH, PUSH (AC POWER)		18	*4-031-057-01	BOX (LEFT), SPEAKER	
5	*1-638-390-11	F BOARD		19	Δ 4-389-201-03	HOLDER, AC CORD	
6	4-200-757-01	COVER, POWER SWITCH		20	Δ 1-590-501-11	CORD, POWER (WITH NOISE FILTER)	
7	*A-1642-035-A	D BOARD, COMPLETE		21	X-4029-448-1	GRILLE ASSY, SPEAKER	
8	Δ 1-439-416-51	TRANSFORMER ASSY, FLYBACK (UX-1650)		22	1-544-475-11	SPEAKER	
9	*4-386-624-11	BRACKET, J		23	*4-031-054-01	BOARD (RIGHT), BAFFLE	
10	*A-1651-018-A	J1 BOARD, COMPLETE		24	*4-031-055-01	BOX (RIGHT), SPEAKER	
11	4-200-014-01	BRACKET, TERMINAL		25	4-031-059-01	COVER, REAR	
12	*A-1645-013-A	V BOARD, COMPLETE		26	*A-1654-004-A	IFG BOARD, COMPLETE	
13	*A-1621-042-A	B1 BOARD, COMPLETE		27	*3-646-071-00	HOLDER, WIRE	
14	4-386-618-01	RIVET, T TYPE					

6-2. PICTURE TUBE (KV-A2121D)

■ : BVTP4x16 7-685-663-79

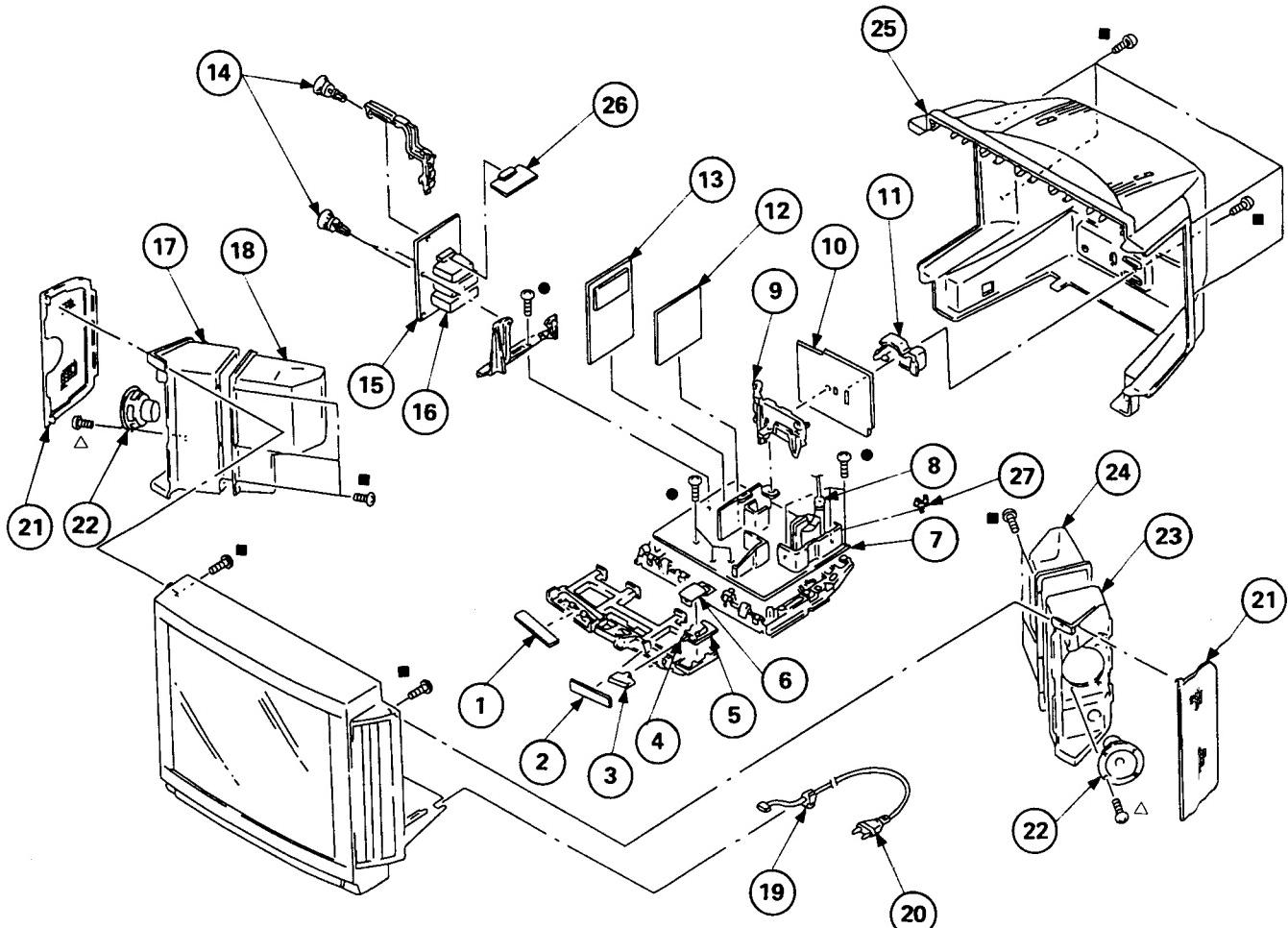


The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
51	4-031-050-01	ORNAMENT, DOOR		64	Δ .1-451-295-11	DEFLECTION YOKE (Y21PFA2)	
52	X-4029-432-1	CABINET ASSY (WITH BEZEL ASSY)	53~59	65	*A-1638-014-A	C BOARD, COMPLETE	
53	4-031-047-01	GRILLE, FRONT		66	*4-379-167-01	COVER (MAIN), CV	
54	4-031-045-01	BRACKET (A), SPEAKER		67	*4-379-160-01	COVER (REAR LID), CV	
55	4-031-046-01	BRACKET (B), SPEAKER		68	4-200-433-01	SPRING, EXTENSION	
56	4-031-051-01	WINDOW, ORNAMENTAL		69	Δ .1-426-383-11	COIL, DEMAGNETIZATION	
57	3-703-035-11	SHAFT, LID		70	*4-386-622-01	BAND, DGC	
58	4-031-049-01	DOOR		71	4-308-870-00	CLIP, LEAD WIRE	
59	4-392-036-01	CATCHER, PUSH		72	1-452-032-00	MAGNET, DISK; 10MM ϕ	
60	Δ .8-738-758-05	PICTURE TUBE (A51JXH61X)		73	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
61	4-036-189-01	SCREW (S), PT		74	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	
62	1-452-277-00	MAGNET, BMC		75	3-701-007-00	BAND, BINDING	
63	3-704-495-01	SPACER, DY					

6-3. CHASSIS (KV-A2521D/A2921D)

- : BVTP3x12 7-685-648-79
- : BVTP4x16 7-685-663-79
- △ : BVTP4x12 7-685-661-79



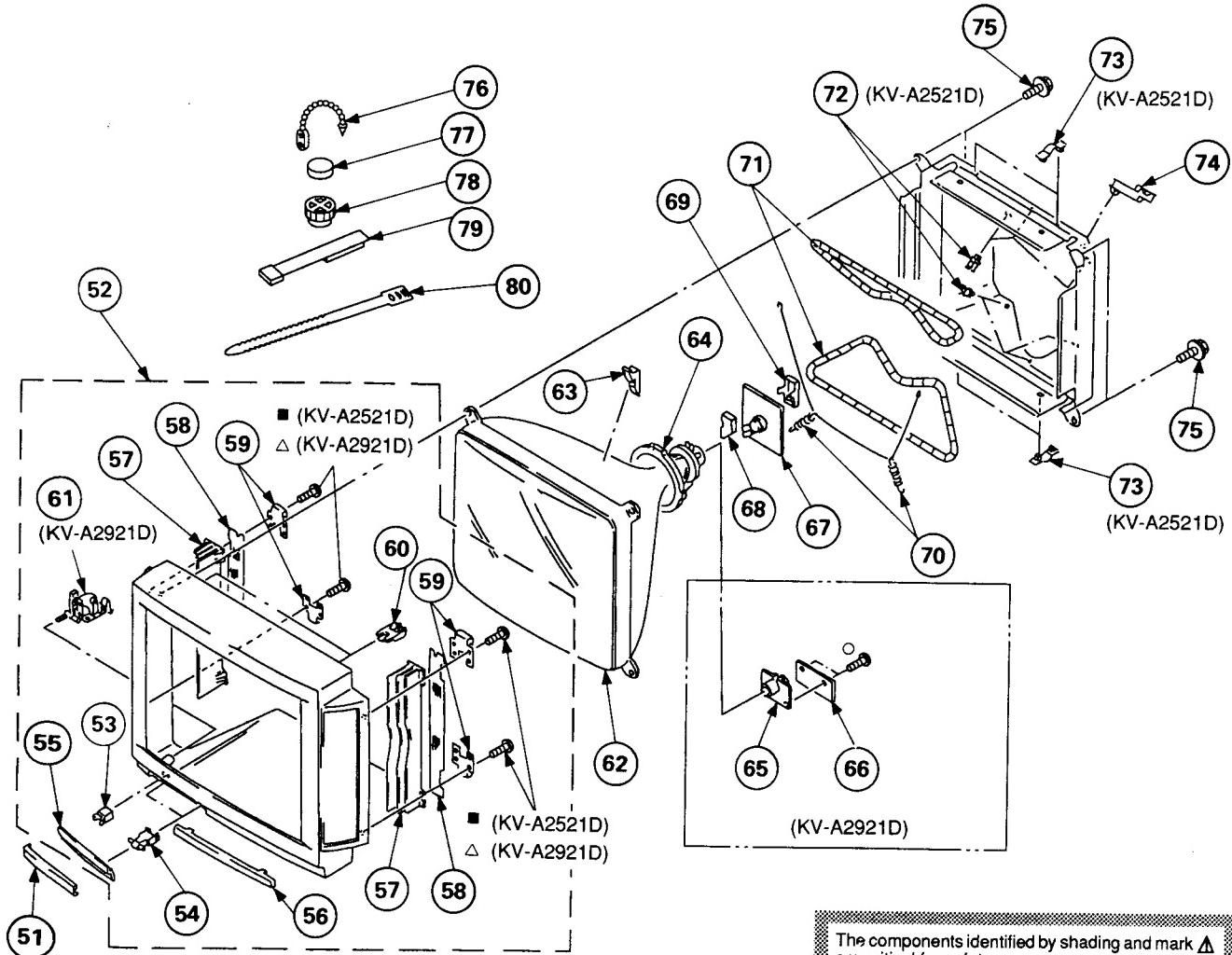
The components identified by shading and mark △ are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
1	*1-638-391-11	H1 BOARD		14	4-386-618-01	RIVET, T TYPE	
2	*1-638-392-11	H2 BOARD		15	*A-1632-022-A	A BOARD, COMPLETE	
3	4-031-044-01	BUTTON, POWER		16	△.I-465-301-11	TUNER, ET (UV-816(PLL))	
4	△.1-571-433-12	SWITCH, PUSH (AC POWER)		17	*4-031-095-01	BOARD (LEFT), BAFFLE	
5	*1-638-390-11	F BOARD		18	*4-031-102-01	BOX (LEFT), SPEAKER	
6	4-200-757-01	COVER, POWER SWITCH		19	△.4-389-201-03	HOLDER, AC CORD	
7	*A-1642-031-A	D BOARD, COMPLETE (KV-A2521D)		20	△.1-590-501-11	CORD, POWER (WITH NOISE FILTER)	
	*A-1642-032-A	D BOARD, COMPLETE (KV-A2921D)		21	X-4029-440-1	GRILLE ASSY, SPEAKER	
8	△.1-439-416-51	TRANSFORMER ASSY, FLYBACK (UX-1650)		22	1-544-475-11	SPEAKER	
9	*4-386-624-11	BRACKET, J		23	*4-031-094-01	BOARD (RIGHT), BAFFLE	
10	*A-1651-018-A	J1 BOARD, COMPLETE (KV-A2521D)		24	*4-031-101-01	BOX (RIGHT), SPEAKER	
	*A-1651-020-A	J1 BOARD, COMPLETE (KV-A2921D)		25	4-031-100-01	COVER, REAR (KV-A2521D)	
11	4-200-014-01	BRACKET, TERMINAL			4-032-133-01	COVER, REAR (KV-A2921D)	
12	*A-1645-013-A	V BOARD, COMPLETE		26	*A-1654-004-A	IFG BOARD, COMPLETE	
13	*A-1621-030-A	B1 BOARD, COMPLETE (KV-A2521D)		27	*3-646-071-00	HOLDER, WIRE	
	*A-1621-031-A	B1 BOARD, COMPLETE (KV-A2921D)					

MC-Service

6-4. PICTURE TUBE (KV-A2521D/A2921D)

- : BVTP4x16 7-685-663-79
- △: BVTP4x12 7-685-661-79
- : BVTP3x8 7-685-646-79



The components identified by shading and mark △ are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
51	4-031-050-01	ORNAMENT, DOOR (KV-A2521D)		64	△.1-451-311-21	DEFLECTION YOKE (Y25FXA) (KV-A2521D)	
	4-032-135-01	ORNAMENT, DOOR (KV-A2921D)			△.1-451-313-21	DEFLECTION YOKE (Y29FXA) (KV-A2921D)	
52	X-4029-439-1	CABINET ASSY (WITH BEZEL ASSY) (KV-A2521D)	53~60	65	△.1-452-509-42	NECK ASSY, PICTURE TUBE (NA-308) (KV-A2921D)	
	X-4029-713-1	CABINET ASSY (WITH BEZEL ASSY) (KV-A2921D)	53~61	66	*1-634-193-11	VM BOARD (KV-A2921D)	
53	4-392-036-01	CATCHER, PUSH		67	*A-1638-011-A	C BOARD, COMPLETE (KV-A2521D)	
54	3-703-035-11	SHAFT, LID			*A-1638-013-A	C BOARD, COMPLETE (KV-A2921D)	
55	4-031-049-01	DOOR (KV-A2521D)		68	*4-379-167-01	COVER (MAIN), CV	
	4-032-134-01	DOOR (KV-A2921D)		69	*4-379-160-01	COVER (REAR LID), CV	
56	4-031-097-01	PLATE, ORNAMENTAL (KV-A2521D)		70	4-303-774-99	SPRING (KV-A2521D)	
	4-032-203-01	WINDOW, ORNAMENTAL (KV-A2921D)			4-369-318-00	SPRING, TENSION (KV-A2921D)	
57	4-031-098-01	FIN, ACOUSTIC (KV-A2521D)		71	△.1-460-091-11	COIL, DEGAUSS (KV-A2521D)	
	4-032-201-01	FIN, ACOUSTIC (KV-A2921D)			△.1-426-535-11	COIL, DEGAUSSING (KV-A2921D)	
58	4-031-090-01	GRILLE, FRONT (KV-A2521D)		72	4-034-296-01	HOLDER, DGC (KV-A2521D)	
	4-032-204-01	GRILLE, FRONT (KV-A2921D)		73	*4-385-916-01	HOLDER (D) (KV-A2521D)	
59	4-031-088-01	BRACKET, SPEAKER		74	*4-387-284-01	HOLDER, LEAD	
60	4-382-745-01	HOLDER, RC		75	4-036-188-01	SCREW (M), PT	
61	X-4029-878-1	DAMPER ASSY (KV-A2921D)		76	4-308-870-00	CLIP, LEAD WIRE	
62	△.8-733-231-05	PICTURE TUBE (A59JWC61X) (KV-A2521D)		77	1-452-032-00	MAGNET, DISK; 10MM φ	
	△.8-733-831-05	PICTURE TUBE (A68JYL61X) (KV-A2921D)		78	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM φ	
63	3-704-495-01	SPACER, DY		79	X-4387-214-1	PERMALLOY ASSY, CORRECTION BAND, BINDING	
				80	3-701-007-00		

SECTION 7

ELECTRICAL PARTS LIST

B1

NOTE:

The components identified by shading and mark Δ are critical for safety.

Replace only with part number specified.

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

When indicating parts by reference number, please include the board name.

CAPACITORS

• MF: μF , PF: $\mu\mu\text{F}$

COILS

• MMH: mH, UH: μH

RESISTORS

- All resistors are in ohms
- F: nonflammable

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
	*A-162I-042-A	B1 BOARD, COMPLETE (KV-A212ID)		C338	1-137-102-11	FILM 0.022MF	10% 250V
		*****		C339	1-163-031-11	CERAMIC CHIP 0.01MF	50V
	*A-162I-030-A	B1 BOARD, COMPLETE (KV-A252ID)		C340	1-126-103-11	ELECT 470MF	20% 16V
		*****		C341	1-163-031-11	CERAMIC CHIP 0.01MF	50V
	*A-162I-031-A	B1 BOARD, COMPLETE (KV-A292ID)		C342	1-124-903-11	ELECT 1MF	20% 50V
		*****		C343	1-163-038-00	CERAMIC CHIP 0.1MF	25V
		<CONNECTOR>		C344	1-124-903-11	ELECT 1MF	20% 50V
B31	*1-565-393-11	CONNECTOR, BOARD TO BOARD		C345	1-137-094-11	FILM 0.047MF	10% 100V
B32	*1-565-393-11	CONNECTOR, BOARD TO BOARD		C346	1-137-033-11	FILM 0.33MF	10% 100V
B33	*1-565-393-11	CONNECTOR, BOARD TO BOARD		C347	1-137-098-11	FILM 0.1MF	10% 100V
B72	*1-568-881-51	PIN, CONNECTOR 6P		C348	1-137-102-11	FILM 0.022MF	10% 250V
B73	*1-568-878-51	PIN, CONNECTOR 3P		C349	1-137-102-11	FILM 0.022MF	10% 250V
		<CAPACITOR>		C350	1-124-902-00	ELECT 0.47MF	20% 50V
				C351	1-137-102-11	FILM 0.022MF	10% 250V
				C352	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C301	1-137-031-11	FILM 0.22MF	10% 100V	C353	1-126-101-11	ELECT 100MF	20% 16V
C302	1-137-031-11	FILM 0.22MF	10% 100V	C354	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C303	1-124-122-11	ELECT 100MF	20% 50V	C356	1-126-101-11	ELECT 100MF	20% 16V
C304	1-137-031-11	FILM 0.22MF	10% 100V	C357	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C305	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C358	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C306	1-124-902-00	ELECT 0.47MF	20% 50V	C360	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C307	1-124-902-00	ELECT 0.47MF	20% 50V	C361	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C308	1-124-902-00	ELECT 0.47MF	20% 50V	C363	1-163-033-00	CERAMIC CHIP 0.022MF	50V
C309	1-124-902-00	ELECT 0.47MF	20% 50V	C371	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C310	1-137-098-11	FILM 0.1MF	10% 100V	C372	1-124-477-11	ELECT 47MF	20% 16V
C311	1-137-098-11	FILM 0.1MF	10% 100V	C373	1-124-477-11	ELECT 47MF	20% 16V
C312	1-124-902-00	ELECT 0.47MF	20% 50V	C374	1-163-090-00	CERAMIC CHIP 7PF	0.25PF 50V
C313	1-124-902-00	ELECT 0.47MF	20% 50V	C375	1-163-090-00	CERAMIC CHIP 7PF	0.25PF 50V
C314	1-124-902-00	ELECT 0.47MF	20% 50V	C376	1-124-034-51	ELECT 33MF	20% 16V
C315	1-124-903-11	ELECT 1MF	20% 50V	C377	1-124-119-00	ELECT 330MF	20% 16V
C316	1-124-927-11	ELECT 4.7MF	20% 50V	C378	1-124-034-51	ELECT 33MF	20% 16V
C317	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C379	1-163-090-00	CERAMIC CHIP 7PF	0.25PF 50V
C318	1-124-927-11	ELECT 4.7MF	20% 50V	C380	1-163-090-00	CERAMIC CHIP 7PF	0.25PF 50V
C319	1-124-927-11	ELECT 4.7MF	20% 50V	C381	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
C320	1-124-910-11	ELECT 47MF	20% 50V	C382	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
C321	1-137-027-11	FILM 0.82MF	10% 63V	C383	1-163-197-00	CERAMIC CHIP 470PF	5% 50V
C322	1-163-077-00	CERAMIC CHIP 0.1MF	50V	C384	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C323	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C385	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
C324	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C386	1-163-377-11	CERAMIC CHIP 100PF	5% 50V
C325	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C387	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
C326	1-124-910-11	ELECT 47MF	20% 50V	C388	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C327	1-124-910-11	ELECT 47MF	20% 50V	C389	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
C328	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C390	1-124-907-11	ELECT 10MF	20% 50V
C329	1-163-123-00	CERAMIC CHIP 180PF	5% 50V	C391	1-124-907-11	ELECT 10MF	20% 50V
C330	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C392	1-124-907-11	ELECT 10MF	20% 50V
C331	1-137-098-11	FILM 0.1MF	10% 100V	C393	1-126-101-11	ELECT 100MF	20% 16V
C332	1-137-098-11	FILM 0.1MF	10% 100V	C394	1-126-101-11	ELECT 100MF	20% 16V
C333	1-163-237-11	CERAMIC CHIP 27PF	5% 50V	C395	1-126-101-11	ELECT 100MF	20% 16V
C334	1-163-119-00	CERAMIC CHIP 120PF	5% 50V	C396	1-126-101-11	ELECT 100MF	20% 16V
C335	1-163-237-11	CERAMIC CHIP 27PF	5% 50V	C397	1-137-028-11	FILM 1MF	10% 63V
C336	1-163-237-11	CERAMIC CHIP 27PF	5% 50V	C398	1-124-907-11	ELECT 10MF	20% 50V

B1

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C399	1-163-038-00	CERAMIC CHIP 0.1MF		25V		<DELAY LINE>	
C1301	1-163-105-00	CERAMIC CHIP 33PF	5%	50V			
C1302	1-163-235-11	CERAMIC CHIP 22PF	5%	50V			
C1303	1-163-038-00	CERAMIC CHIP 0.1MF		25V			
C1304	1-124-907-11	ELECT 10MF	20%	50V			
C1305	1-126-101-11	ELECT 100MF	20%	16V		<FILTER>	
C1306	1-163-038-00	CERAMIC CHIP 0.1MF		25V			
C1307	1-163-038-00	CERAMIC CHIP 0.1MF		25V			
C1308	1-163-038-00	CERAMIC CHIP 0.1MF		25V			
C1309	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C1310	1-163-031-11	CERAMIC CHIP 0.01MF		50V		<IC>	
C1311	1-163-038-00	CERAMIC CHIP 0.1MF		25V			
C1312	1-163-038-00	CERAMIC CHIP 0.1MF		25V			
C1313	1-163-038-00	CERAMIC CHIP 0.1MF		25V			
C1314	1-163-109-00	CERAMIC CHIP 47PF	5%	50V			
C1315	1-163-038-00	CERAMIC CHIP 0.1MF		25V			
C1316	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V			
C1317	1-163-038-00	CERAMIC CHIP 0.1MF		50V			
C1318	1-163-038-00	CERAMIC CHIP 0.1MF		25V			
C1319	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C1320	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C1321	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C1322	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C1323	1-163-031-11	CERAMIC CHIP 0.01MF		50V			
C1324	1-163-033-00	CERAMIC CHIP 0.022MF		50V			
C1325	1-163-038-00	CERAMIC CHIP 0.1MF		25V			
C1326	1-163-031-11	CERAMIC CHIP 0.01MF		50V		<COIL>	
C1327	1-163-115-00	CERAMIC CHIP 82PF	5%	50V			
C1328	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V			
C1329	1-163-035-00	CERAMIC CHIP 0.047MF		50V			
C1330	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V			
C1331	1-164-187-11	CERAMIC CHIP 390PF	2%	50V			
C1333	1-126-101-11	ELECT 100MF	20%	16V			
<TRIMMER>							
CT301	1-141-418-11	CAP, ADJ					
CT302	1-141-418-11	CAP, ADJ					
<DIODE>							
D301	8-719-951-22	DIODE INM10					
D304	8-719-989-26	DIODE DAN212K					
D305	8-719-989-26	DIODE DAN212K					
D307	8-719-106-62	DIODE RD11M-B2					
D308	8-719-989-26	DIODE DAN212K					
D309	8-719-989-26	DIODE DAN212K					
D310	8-719-106-62	DIODE RD11M-B2					
D311	8-719-106-62	DIODE RD11M-B2					
D312	8-719-106-62	DIODE RD11M-B2					
D314	8-719-800-76	DIODE ISS226					
D318	8-719-800-76	DIODE ISS226				<TRANSISTOR>	
D319	8-719-800-76	DIODE ISS226					
D320	8-719-800-76	DIODE ISS226					
D321	8-719-105-91	DIODE RD5.6M-B2					
D322	8-719-400-18	DIODE MA152WK					
D330	8-719-989-26	DIODE DAN212K					
D331	8-719-914-44	DIODE DAP202K					
D333	8-719-951-22	DIODE INM10					
D336	8-719-400-18	DIODE MA152WK					
D340	8-719-800-76	DIODE ISS226					
D341	8-719-989-26	DIODE DAN212K					
<IC LINK>							
PS301▲1-532-605-91 LINK, IC (ICP-N10) 0.4A							
<TRANSISTOR>							
Q301	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q302	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q303	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q304	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q305	8-729-901-06	TRANSISTOR DTA144EK					
Q306	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q307	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q308	8-729-901-00	TRANSISTOR DTC124EK					
Q310	8-729-901-00	TRANSISTOR DTC124EK					
Q311	8-729-901-00	TRANSISTOR DTC124EK					
Q320	8-729-120-28	TRANSISTOR 2SC1623-L5L6					

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
Q321	8-729-216-22	TRANSISTOR 2SA1162-G		R306	1-216-035-00	METAL GLAZE	270 5% 1/10W
Q322	8-729-216-22	TRANSISTOR 2SA1162-G		R307	1-216-097-00	METAL GLAZE	100K 5% 1/10W
Q323	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R309	1-216-025-00	METAL GLAZE	100 5% 1/10W
Q324	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R310	1-216-025-00	METAL GLAZE	100 5% 1/10W
Q327	8-729-216-22	TRANSISTOR 2SA1162-G		R311	1-216-025-00	METAL GLAZE	100 5% 1/10W
Q328	8-729-216-22	TRANSISTOR 2SA1162-G		R312	1-216-021-00	METAL GLAZE	68 5% 1/10W
Q329	8-729-216-22	TRANSISTOR 2SA1162-G		R313	1-216-021-00	METAL GLAZE	68 5% 1/10W
Q330	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R314	1-216-021-00	METAL GLAZE	68 5% 1/10W
Q331	8-729-216-22	TRANSISTOR 2SA1162-G		R316	1-216-081-00	METAL GLAZE	22K 5% 1/10W
Q332	8-729-216-22	TRANSISTOR 2SA1162-G		R317	1-216-033-00	METAL GLAZE	220 5% 1/10W
Q333	8-729-901-00	TRANSISTOR DTC124EK		R318	1-216-073-00	METAL GLAZE	10K 5% 1/10W
Q334	8-729-901-00	TRANSISTOR DTC124EK		R319	1-216-073-00	METAL GLAZE	10K 5% 1/10W
Q335	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R320	1-216-198-00	METAL GLAZE	1K 5% 1/8W
Q336	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R321	1-216-073-00	METAL GLAZE	10K 5% 1/10W
Q337	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R322	1-216-073-00	METAL GLAZE	10K 5% 1/10W
Q338	8-729-216-22	TRANSISTOR 2SA1162-G		R323	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
Q339	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R324	1-216-049-00	METAL GLAZE	1K 5% 1/10W
Q340	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R325	1-216-033-00	METAL GLAZE	220 5% 1/10W
Q341	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R326	1-216-311-00	METAL GLAZE	6.8 5% 1/10W
Q342	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R327	1-216-311-00	METAL GLAZE	6.8 5% 1/10W
Q343	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R328	1-216-311-00	METAL GLAZE	6.8 5% 1/10W
Q344	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R329	1-216-031-00	METAL GLAZE	180 5% 1/10W
Q345	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R330	1-216-031-00	METAL GLAZE	180 5% 1/10W
Q346	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R331	1-216-031-00	METAL GLAZE	180 5% 1/10W
Q347	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R332	1-216-182-00	METAL GLAZE	220 5% 1/8W
Q348	8-729-901-00	TRANSISTOR DTC124EK		R333	1-216-033-00	METAL GLAZE	220 5% 1/10W
Q350	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R335	1-216-101-00	METAL GLAZE	150K 5% 1/10W
Q352	8-729-216-22	TRANSISTOR 2SA1162-G		R336	1-216-073-00	METAL GLAZE	10K 5% 1/10W
Q353	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R337	1-216-093-00	METAL GLAZE	68K 5% 1/10W
Q354	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R338	1-216-085-00	METAL GLAZE	33K 5% 1/10W
Q355	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R339	1-216-083-00	METAL GLAZE	27K 5% 1/10W
Q356	8-729-216-22	TRANSISTOR 2SA1162-G		R340	1-216-105-00	METAL GLAZE	220K 5% 1/10W
Q357	8-729-216-22	TRANSISTOR 2SA1162-G		R341	1-216-115-00	METAL GLAZE	560K 5% 1/10W
Q358	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R342	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
Q359	8-729-216-22	TRANSISTOR 2SA1162-G		R343	1-216-033-00	METAL GLAZE	220 5% 1/10W
Q360	8-729-120-28	TRANSISTOR 2SC1623-L5L6					(KV-A2121D)
Q361	8-729-120-28	TRANSISTOR 2SC1623-L5L6					(KV-A2521D)
Q362	8-729-120-28	TRANSISTOR 2SC1623-L5L6					(KV-A2921D)
Q363	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q364	8-729-216-22	TRANSISTOR 2SA1162-G					
Q365	8-729-216-22	TRANSISTOR 2SA1162-G		R344	1-216-089-00	METAL GLAZE	47K 5% 1/10W
Q366	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R345	1-216-097-00	METAL GLAZE	100K 5% 1/10W
Q367	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R346	1-216-033-00	METAL GLAZE	220 5% 1/10W
Q368	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R347	1-216-121-00	METAL GLAZE	1M 5% 1/10W
Q369	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R348	1-216-001-00	METAL GLAZE	10 5% 1/10W
Q370	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R349	1-216-001-00	METAL GLAZE	10 5% 1/10W
Q371	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R350	1-216-184-00	METAL GLAZE	270 5% 1/8W
Q372	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R351	1-216-184-00	METAL GLAZE	270 5% 1/8W
Q373	8-729-901-00	TRANSISTOR DTC124EK		R352	1-216-070-00	METAL GLAZE	7.5K 5% 1/10W
Q1301	8-729-901-00	TRANSISTOR DTC124EK		R353	1-216-073-00	METAL GLAZE	10K 5% 1/10W
Q1302	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R354	1-216-037-00	METAL GLAZE	330 5% 1/10W
Q1303	8-729-901-00	TRANSISTOR DTC124EK		R355	1-216-033-00	METAL GLAZE	220 5% 1/10W
				R357	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
				R358	1-216-037-00	METAL GLAZE	330 5% 1/10W
				R359	1-216-041-00	METAL GLAZE	470 5% 1/10W
JR302	1-216-295-00	METAL GLAZE 0 5% 1/10W		R361	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
JR304	1-216-296-00	METAL GLAZE 0 5% 1/8W		R362	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
JR305	1-216-295-00	METAL GLAZE 0 5% 1/10W		R363	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
JR391	1-216-295-00	METAL GLAZE 0 5% 1/10W		R364	1-216-033-00	METAL GLAZE	220 5% 1/10W
R301	1-216-033-00	METAL GLAZE 220 5% 1/10W		R365	1-216-035-00	METAL GLAZE	270 5% 1/10W
R302	1-216-033-00	METAL GLAZE 220 5% 1/10W		R366	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R303	1-216-033-00	METAL GLAZE 220 5% 1/10W		R367	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R304	1-216-081-00	METAL GLAZE 22K 5% 1/10W		R368	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R305	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W					

B1

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R369	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R1336	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R370	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1337	1-216-657-11	METAL CHIP	1.8K 0.50% 1/10W
R371	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1338	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R372	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1339	1-216-039-00	METAL GLAZE	390 5% 1/10W
R373	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R1340	1-216-025-00	METAL GLAZE	100 5% 1/10W
R374	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1341	1-216-667-11	METAL CHIP	4.7K 0.50% 1/10W
R375	1-216-043-00	METAL GLAZE	560 5% 1/10W	R1342	1-216-025-00	METAL GLAZE	100 5% 1/10W
R376	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R1343	1-216-043-00	METAL GLAZE	560 5% 1/10W
R377	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1344	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R378	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1345	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R379	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1346	1-216-025-00	METAL GLAZE	100 5% 1/10W
R380	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1347	1-216-025-00	METAL GLAZE	100 5% 1/10W
R381	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1348	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R382	1-216-093-00	METAL GLAZE	68K 5% 1/10W	R1349	1-216-075-00	METAL GLAZE	12K 5% 1/10W
R383	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1350	1-216-039-00	METAL GLAZE	390 5% 1/10W
R384	1-216-093-00	METAL GLAZE	68K 5% 1/10W	R1351	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R385	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1352	1-216-041-00	METAL GLAZE	470 5% 1/10W
R386	1-216-093-00	METAL GLAZE	68K 5% 1/10W	R1353	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R387	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1354	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R388	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R1355	1-216-045-00	METAL GLAZE	680 5% 1/10W
R389	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1356	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R390	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1357	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R391	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1358	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R392	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1359	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R393	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1360	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R394	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1361	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R395	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1362	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R396	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1363	1-216-039-00	METAL GLAZE	390 5% 1/10W
R397	1-216-047-00	METAL GLAZE	820 5% 1/10W	R1364	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R398	1-216-035-00	METAL GLAZE	270 5% 1/10W	R1365	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R399	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R1366	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R1301	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1367	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R1302	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1368	1-216-033-00	METAL GLAZE	220 5% 1/10W
R1303	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1369	1-216-031-00	METAL GLAZE	180 5% 1/10W
R1305	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R1370	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R1308	1-216-295-00	METAL GLAZE	0 5% 1/10W (KV-A2121D, A2521D)	R1371	1-216-031-00	METAL GLAZE	180 5% 1/10W
	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W (KV-A2921D)	R1372	1-216-047-00	METAL GLAZE	820 5% 1/10W
R1309	1-216-023-00	METAL GLAZE	82 5% 1/10W	R1373	1-216-035-00	METAL GLAZE	270 5% 1/10W
R1310	1-216-047-00	METAL GLAZE	820 5% 1/10W	R1374	1-216-202-00	METAL GLAZE	1.5K 5% 1/8W
R1311	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1375	1-216-208-00	METAL GLAZE	2.7K 5% 1/8W
R1312	1-216-039-00	METAL GLAZE	390 5% 1/10W	R1376	1-216-087-11	METAL GLAZE	39K 5% 1/10W
R1313	1-216-043-00	METAL GLAZE	560 5% 1/10W	R1377	1-216-087-11	METAL GLAZE	39K 5% 1/10W
R1314	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R1378	1-216-087-11	METAL GLAZE	39K 5% 1/10W
R1315	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1379	1-216-087-11	METAL GLAZE	39K 5% 1/10W
R1316	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1380	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R1319	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1381	1-216-033-00	METAL GLAZE	220 5% 1/10W
R1320	1-216-641-11	METAL CHIP	390 0.50% 1/10W	R1382	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R1321	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1383	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R1322	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R1384	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R1323	1-216-643-11	METAL CHIP	470 0.50% 1/10W	R1385	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R1324	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1386	1-216-047-00	METAL GLAZE	820 5% 1/10W
R1325	1-216-037-00	METAL GLAZE	330 5% 1/10W	R1387	1-216-031-00	METAL GLAZE	180 5% 1/10W
R1326	1-216-045-00	METAL GLAZE	680 5% 1/10W	R1388	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1327	1-216-029-00	METAL GLAZE	150 5% 1/10W	R1389	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1328	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1390	1-216-093-00	METAL GLAZE	68K 5% 1/10W
R1329	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1391	1-216-208-00	METAL GLAZE	2.7K 5% 1/8W
R1330	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1392	1-216-047-00	METAL GLAZE	820 5% 1/10W
R1331	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1393	1-216-047-00	METAL GLAZE	820 5% 1/10W
R1332	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1394	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R1333	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R1395	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R1334	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R1396	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1335	1-216-043-00	METAL GLAZE	560 5% 1/10W	R1397	1-216-073-00	METAL GLAZE	10K 5% 1/10W
				R1398	1-216-001-00	METAL GLAZE	10 5% 1/10W

The components identified by shading and mark **Δ** are critical for safety.
Replace only with part number specified.

B1 F A

REF.NO.	PART NO.	DESCRIPTION			REMARK	REF.NO.	PART NO.	DESCRIPTION			REMARK	
R1399	1-216-029-00	METAL GLAZE	150	5%	1/10W							
		<VARIABLE RESISTOR>						<IC>				
RV301	1-238-012-11	RES, ADJ, CARBON	1K				IC103	8-759-979-62	IC PCP8574			
		<CRYSTAL>						<COIL>				
X301	1-567-307-11	OSCILLATOR, CRYSTAL				L100	1-410-683-31	INDUCTOR	560UH			
X302	1-567-131-00	OSCILLATOR, CRYSTAL				L101	1-408-225-00	INDUCTOR	3.3UH			
X302	1-567-131-00	OSCILLATOR, CRYSTAL				L102	1-408-413-00	INDUCTOR	22UH			
X302	1-567-131-00	OSCILLATOR, CRYSTAL				L107	1-408-397-00	INDUCTOR	1UH			

*1-638-390-11	F BOARD							<TRANSISTOR>				
	*****					Q113	8-729-120-28	TRANSISTOR	2SC1623-L5L6			
*4-341-752-01	EYELET					Q114	8-729-120-28	TRANSISTOR	2SC1623-L5L6			
						Q115	8-729-120-28	TRANSISTOR	2SC1623-L5L6			
						Q116	8-729-120-28	TRANSISTOR	2SC1623-L5L6			
						Q125	8-729-900-89	TRANSISTOR	DTC144ES			
		<CONNECTOR>										
F61	*1-580-844-11	PIN, CONNECTOR (POWER)				Q126	8-729-901-06	TRANSISTOR	DTA144EK			
F62	*1-580-844-11	PIN, CONNECTOR (POWER)				Q181	8-729-120-28	TRANSISTOR	2SC1623-L5L6			
		<FUSE>					<RESISTOR>					
F1601△1-576-231-21	FUSE (H.B.C.)	4A/250V				JR230	1-216-295-00	METAL GLAZE	0	5%	1/10W	
1-533-230-11	HOLDER, FUSE	F1601				JR252	1-216-296-00	METAL GLAZE	0	5%	1/8W	
						JR253	1-216-296-00	METAL GLAZE	0	5%	1/8W	
						JR255	1-216-296-00	METAL GLAZE	0	5%	1/8W	
						JR256	1-216-296-00	METAL GLAZE	0	5%	1/8W	
		<SWITCH>				JR257	1-216-296-00	METAL GLAZE	0	5%	1/8W	
S1701△1-571-433-12	SWITCH, PUSH (AC POWER)					JR258	1-216-296-00	METAL GLAZE	0	5%	1/8W	
						R101	1-216-025-00	METAL GLAZE	100	5%	1/10W	
						R105	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
						R107	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
		<CONNECTOR>										
*A-1632-022-A	A BOARD, COMPLETE					R108	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
	*****					R110	1-249-429-11	CARBON	10K	5%	1/4W	
						R111	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
						R116	1-216-023-00	METAL GLAZE	82	5%	1/10W	
						R118	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
		<CONNECTOR>				R128	1-216-027-00	METAL GLAZE	120	5%	1/10W	
A11	*1-565-393-11	CONNECTOR, BOARD TO BOARD				R129	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
A12	*1-565-393-11	CONNECTOR, BOARD TO BOARD				R130	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
A13	*1-565-503-11	CONNECTOR, BOARD TO BOARD 12P				R157	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
A16	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)				R158	1-249-409-11	CARBON	220	5%	1/4W	
A17	*1-564-886-11	PLUG, CONNECTOR 9P				R159	1-249-409-11	CARBON	220	5%	1/4W	
A19	*1-564-881-11	PLUG, CONNECTOR 4P				R161	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
		<CAPACITOR>				R162	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
						R163	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
						R164	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
C101	1-126-233-11	ELECT	22MF	20%	50V	R165	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
C102	1-126-103-11	ELECT	470MF	20%	16V	R167	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
C104	1-124-910-11	ELECT	47MF	20%	50V	R168	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
C106	1-126-233-11	ELECT	22MF	20%	50V	R169	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
C108	1-136-165-00	FILM	0.1MF	5%	50V	R181	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
C109	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	R182	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
C111	1-124-925-11	ELECT	2.2MF	20%	50V	R193	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
C115	1-124-925-11	ELECT	2.2MF	20%	50V	R194	1-216-017-00	METAL GLAZE	47	5%	1/10W	
C127	1-124-122-11	ELECT	100MF	20%	50V	R195	1-216-017-00	METAL GLAZE	47	5%	1/10W	
C128	1-124-910-11	ELECT	47MF	20%	50V	R196	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
C129	1-124-910-11	ELECT	47MF	20%	50V			<TUNER>				
C138	1-136-165-00	FILM	0.1MF	5%	50V							
C171	1-163-005-11	CERAMIC CHIP	470PF	10%	50V							
C172	1-163-005-11	CERAMIC CHIP	470PF	10%	50V							
C177	1-102-074-00	CERAMIC	0.001MF	10%	50V							
C181	1-101-004-00	CERAMIC	0.01MF		50V	TU101△1-465-301-11	TUNER, ET (UV-816(PLL))					

A **C**

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK		
<IF BLOCK>									
VIF101 1-466-154-11 IF BLOCK (IFG-389S)									

*A-1638-014-A	C BOARD, COMPLETE (KV-A2121D)			Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE			
	*****			Q703	8-729-906-70	TRANSISTOR BF871			
*A-1638-011-A	C BOARD, COMPLETE (KV-A2521D)			Q704	8-729-200-17	TRANSISTOR 2SA1091-O			
	*****			Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE			
*A-1638-013-A	C BOARD, COMPLETE (KV-A2921D)			Q706	8-729-906-70	TRANSISTOR BF871			
	*****			Q707	8-729-200-17	TRANSISTOR 2SA1091-O			
*4-379-160-01	COVER (REAR LID), CV			Q708	8-729-119-78	TRANSISTOR 2SC2785-HFE			
*4-379-167-01	COVER (MAIN), CV			Q709	8-729-906-70	TRANSISTOR BF871			
				Q710	8-729-200-17	TRANSISTOR 2SA1091-O			
<TRANSISTOR>									
<CONNECTOR>									
C71	*1-506-371-00	PIN, CONNECTOR 2P		R704	1-216-486-00	METAL OXIDE	8.2K 5% 3W F		
C72	*1-568-881-51	PIN, CONNECTOR 6P		R705	1-202-824-00	SOLID	3.3K 10% 1/2W		
C81	*1-568-878-51	PIN, CONNECTOR 3P		R706	1-249-409-11	CARBON	220 5% 1/4W		
C82	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		R707	1-247-822-11	CARBON	430 5% 1/4W		
							(KV-A2121D)		
<RESISTOR>									
<CAPACITOR>									
C703	I-102-980-00	CERAMIC	270PF	5%	50V	R708	1-249-401-11	CARBON	390 5% 1/4W
C704	I-102-116-00	CERAMIC	680PF	10%	50V	R709	1-202-844-00	SOLID	(KV-A2521D, A2921D) 1/4W
C705	I-102-976-00	CERAMIC	180PF	5%	50V	R710	1-215-469-00	METAL	330K 10% 1/2W
							100K 1% 1/4W		
							(KV-A2121D)		
	1-102-978-00	CERAMIC	220PF	5%	50V	R711	1-249-426-11	CARBON	47 5% 1/4W
						R712	1-249-417-11	CARBON	1K 5% 1/4W
C706	I-102-116-00	CERAMIC	680PF	10%	50V	R713	1-215-474-00	METAL	160K 1% 1/4W
C707	I-162-116-00	CERAMIC	680PF	10%	2KV			(KV-A2121D)	
C708	I-162-114-00	CERAMIC	0.0047MF			R714	1-215-465-00	METAL	120K 1% 1/4W
C709	I-102-116-00	CERAMIC	680PF	10%	50V			(KV-A2521D, A2921D)	
C710	I-123-947-00	ELECT	10MF	20%	250V	R715	1-202-824-00	SOLID	8.2K 5% 3W F
C711	I-101-880-00	CERAMIC	47PF	5%	50V	R716	1-249-409-11	CARBON	3.3K 10% 1/2W
C712	I-102-980-00	CERAMIC	270PF	5%	50V	R717	1-249-415-11	CARBON	220 5% 1/4W
C714	I-124-360-00	ELECT	1000MF	20%	16V	R718	1-202-814-11	SOLID	680 5% 1/4W
C716	I-162-622-11	CERAMIC	330PF	10%	400V	R719	1-249-401-11	CARBON	33K 10% 1/2W
C717	I-102-114-00	CERAMIC	470PF	10%	50V			47 5% 1/4W	
C718	I-102-114-00	CERAMIC	470PF	10%	50V	R720	1-249-423-11	CARBON	3.3K 5% 1/4W
C719	I-102-114-00	CERAMIC	470PF	10%	50V	R721	1-202-842-11	SOLID	220K 10% 1/2W
						R722	1-202-848-00	SOLID	680K 10% 1/2W
<DIODE>									
D701	8-719-110-14	DIODE RD9.1ES-B3		R723	1-249-417-11	CARBON	1K 5% 1/4W		
D702	8-719-911-19	DIODE ISS119		R724	1-202-846-00	SOLID	470K 10% 1/2W		
D703	8-719-911-19	DIODE ISS119		R725	1-202-838-00	SOLID	100K 10% 1/2W		
D704	8-719-911-19	DIODE ISS119		R726	1-202-824-00	SOLID	3.3K 10% 1/2W		
D705	8-719-911-19	DIODE ISS119		R727	1-249-409-11	CARBON	220 5% 1/4W		
D706	8-719-911-19	DIODE ISS119		R728	1-216-347-11	METAL OXIDE	0.68 5% 1W F		
D707	8-719-911-19	DIODE ISS119		R729	1-249-416-11	CARBON	820 5% 1/4W		
D708	8-719-911-19	DIODE ISS119		R730	1-249-401-11	CARBON	47 5% 1/4W		
D709	8-719-911-19	DIODE ISS119		R731	1-249-423-11	CARBON	3.3K 5% 1/4W		
D710	8-719-911-19	DIODE ISS119		R732	1-249-415-11	CARBON	680 5% 1/4W		
D711	8-719-300-33	DIODE RU-3AM		R733	1-249-415-11	CARBON	680 5% 1/4W		
D713	8-719-911-19	DIODE ISS119		R734	1-249-405-11	CARBON	100 5% 1/4W		
				R735	1-215-493-00	METAL	1M 1% 1/4W		
<JACK>									
J701	1-526-990-11	SOCKET, PICTURE TUBE		R736	1-216-486-00	METAL OXIDE	8.2K 5% 3W F		
				R737	1-215-483-00	METAL	390K 1% 1/4W		
<COIL>									
L704	1-408-415-00	INDUCTOR	33UH				(KV-A2521D)		
							(KV-A2921D)		
				R739	1-249-417-11	CARBON	1K 5% 1/4W		

The components identified by shading and mark **Δ** are critical for safety.
Replace only with part number specified.

C D

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK		
				C506	I-137-102-11	FILM	0.022MF 10%		
				C507	I-137-033-11	FILM	0.33MF 10%		
				C508	I-137-102-11	FILM	0.022MF 10%		
				C509	I-137-098-11	FILM	0.1MF 10%		
		<VARIABLE RESISTOR>		C510	I-161-959-00	CERAMIC	22PF 10%		
RV701	I-230-641-11	RES, ADJ, METAL GLAZE 2.2M		C511	I-108-686-11	MYLAR	0.0033MF 10%		
RV702	I-230-619-11	RES, ADJ, METAL GLAZE 110M		C512	I-137-098-11	FILM	0.1MF 10%		
RV703	I-237-749-11	RES, ADJ, CARBON 2200		C513	I-163-125-00	CERAMIC CHIP	220PF 5% 50V		
RV704	I-237-749-11	RES, ADJ, CARBON 2200		C514	I-137-031-11	FILM	0.22MF 10%		

*A-1642-035-A	D BOARD, COMPLETE (KV-A2121D)			C515	I-124-903-11	ELECT	1MF 20%		
*****				C516	I-108-680-11	MYLAR	0.001MF 10%		
*A-1642-031-A	D BOARD, COMPLETE (KV-A2521D)			C517	I-124-252-00	ELECT	0.33MF 20%		
*****				C518	I-124-902-00	ELECT	0.47MF 20%		
*A-1642-032-A	D BOARD, COMPLETE (KV-A2921D)			C519	I-136-173-00	FILM	0.47MF 5%		

4-200-001-01	HOLDER, IC				I-136-171-00	FILM	0.33MF 5% 50V		
4-201-023-01	SPACER, INSULATING						(KV-A2121D, A2521D)		
*4-341-751-01	EYELET			C520	I-164-161-11	CERAMIC CHIP	0.0022MF 10% 50V		
*4-341-752-01	EYELET			C521	I-137-098-11	FILM	0.1MF 10% 100V		
*4-368-683-01	SPRING			C522	I-124-122-11	ELECT	100MF 20%		
<CAPACITOR>									
C002	I-163-205-00	CERAMIC CHIP 0.001MF	5%	50V	C523	I-108-680-11	MYLAR	0.001MF 10% 100V	
C003	I-124-925-11	ELECT 2.2MF	20%	50V	C524	I-108-798-11	MYLAR	0.0033MF 5% 50V	
C004	I-124-120-11	ELECT 220MF	20%	16V	C525	I-163-117-00	CERAMIC CHIP	100PF 5% 50V	
C005	I-124-903-11	ELECT 1MF	20%	50V	C526	I-163-103-00	CERAMIC CHIP	27PF 5% 50V	
C008	I-163-117-00	CERAMIC CHIP 100PF	5%	50V		I-163-101-00	CERAMIC CHIP	22PF 5% 50V	
C009	I-163-117-00	CERAMIC CHIP 100PF	5%	50V		C527	I-137-098-11	FILM	0.1MF 10% 100V
C010	I-124-120-11	ELECT 220MF	20%	16V		C531	I-124-190-00	ELECT	680MF 10% 25V
C011	I-163-031-11	CERAMIC CHIP 0.01MF				C532	I-124-122-11	ELECT	100MF 20% 50V
C013	I-137-098-11	FILM 0.1MF	10%	100V		C533	I-137-096-11	FILM	0.068MF 10% 100V
C014	I-137-098-11	FILM 0.1MF	10%	100V		C534	I-124-120-11	ELECT	220MF 20% 16V
C015	I-124-902-00	ELECT 0.47MF	20%	50V		C536	I-131-363-00	TANTALUM	4.7MF 10% 16V
C016	I-163-141-00	CERAMIC CHIP 0.001MF	5%	50V				(KV-A2121D)	
C017	I-137-098-11	FILM 0.1MF	10%	100V				(KV-A2521D, A2921D)	
C018	I-163-127-00	CERAMIC CHIP 270PF	5%	50V					
C019	I-137-094-11	FILM 0.047MF	10%	100V					
C021	I-163-117-00	CERAMIC CHIP 100PF	5%	50V					
C023	I-163-117-00	CERAMIC CHIP 100PF	5%	50V					
C024	I-163-117-00	CERAMIC CHIP 100PF	5%	50V					
C027	I-124-910-11	ELECT 47MF	20%	50V					
C030	I-163-038-00	CERAMIC CHIP 0.1MF		25V					
C031	I-163-081-00	CERAMIC CHIP 0.22MF		25V					
C032	I-163-081-00	CERAMIC CHIP 0.22MF		25V					
C033	I-163-181-00	CERAMIC CHIP 100PF	5%	50V					
C034	I-124-907-11	ELECT 10MF	20%	50V					
C251	I-124-903-11	ELECT 1MF	20%	50V					
C252	I-126-233-11	ELECT 22MF	20%	50V					
C253	I-163-009-11	CERAMIC CHIP 0.001MF	10%	50V					
C254	I-137-098-11	FILM 0.1MF	10%	100V					
C255	I-124-636-00	ELECT 3300MF	20%	25V					
C261	I-124-903-11	ELECT 1MF	20%	50V					
C262	I-126-233-11	ELECT 22MF	20%	50V					
C263	I-163-009-11	CERAMIC CHIP 0.001MF	10%	50V					
C264	I-137-098-11	FILM 0.1MF	10%	100V					
C265	I-124-564-11	ELECT 4700MF	20%	25V					
C270	I-137-035-11	FILM 0.47MF	10%	100V					
C274	I-137-035-11	FILM 0.47MF	10%	100V				(KV-A2121D)	
C501	I-124-927-11	ELECT 4.7MF	20%	50V					
C502	I-124-927-11	ELECT 4.7MF	20%	50V				(KV-A2521D, A2921D)	
C503	I-137-049-11	FILM 0.015MF	10%	400V					
C504	I-163-121-00	CERAMIC CHIP 150PF	5%	50V					
C505	I-108-794-11	MYLAR 0.0015MF	5%	50V				(KV-A2121D)	

D

The components identified by shading and mark **Δ** are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK	
C620	I-136-173-00	FILM	0.47MF (KV-A2521D, A2921D)	5% 50V	D18	*I-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)	
C621	I-124-347-00	ELECT	100MF	20% 160V	D21	*I-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
C622	I-128-320-11	ELECT	2200MF	20% 16V	D22	*I-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
C623	I-124-910-11	ELECT	47MF	20% 50V	D31	*I-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
C624	I-124-122-11	ELECT	100MF	20% 50V	D32	*I-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
C625	I-124-360-00	ELECT	1000MF	20% 16V	D33	*I-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
C626	I-124-907-11	ELECT	10MF	20% 50V	D41	*I-566-367-11	CONNECTOR, HINGE (RECEPTACLE)	
C627	I-163-009-11	CERAMIC CHIP	0.001MF	10% 50V	D44	*I-568-881-51	PIN, CONNECTOR 6P	
C631	I-124-927-11	ELECT	4.7MF	20% 50V	D45	*I-568-881-51	PIN, CONNECTOR 6P	
C632	I-163-009-11	CERAMIC CHIP	0.001MF	10% 50V	D51	*I-566-367-11	CONNECTOR, HINGE (RECEPTACLE)	
C633	I-163-117-00	CERAMIC CHIP	100PF	5% 50V	D62	*I-565-395-11	PIN, CONNECTOR 3P	
C801	I-126-105-11	ELECT	1000MF	20% 35V	D65	*I-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
C802	I-102-030-00	CERAMIC	330PF	10% 500V	D66	*I-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
C804	I-123-948-00	ELECT	22MF	20% 250V	D82	*I-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
C805	I-162-114-00	CERAMIC	0.0047MF	2KV	D83	*I-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
C806	I-137-098-11	FILM	0.1MF	10% 100V	D84	*I-580-798-11	CONNECTOR PIN (DY) 6P	
C807	I-106-395-00	MYLAR	0.15MF	10% 200V	D88	*I-568-878-51	PIN, CONNECTOR 3P (KV-A2921D)	
C810	I-123-024-21	ELECT	33MF	160V	D801	*I-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
C811	I-136-111-00	FILM	1MF	5% 200V				
				(KV-A2121D)		<DIODE>		
	I-136-113-00	FILM	2MF	5% 200V	D001	8-719-109-97	DIODE RD6.8ES-B2	
				(KV-A2521D, A2921D)	D002	8-719-109-97	DIODE RD6.8ES-B2	
C812	I-124-034-11	ELECT	1MF	20% 250V	D003	8-719-911-19	DIODE ISS119	
C813	I-102-212-00	CERAMIC	820PF	10% 500V	D005	8-719-109-89	DIODE RD5.6ES-B2	
C814 Δ. I-161-731-51	CERAMIC	0.001MF	10% 2KV	D006	8-719-982-24	DIODE MTZJ-33A		
C815	I-136-111-00	FILM	1MF	5% 200V	D007	8-719-982-08	DIODE MTZJ-3.9B	
	I-136-540-11	FILM	0.82MF	5% 200V	D009	8-719-109-89	DIODE RD5.6ES-B2	
				(KV-A2921D)	D010	8-719-921-54	DIODE MTZJ-6.2B	
C817 Δ. I-136-549-11	FILM	0.0106MF	3% 1.4KV	D011	8-719-921-54	DIODE MTZJ-6.2B		
Δ. I-136-565-11	FILM	0.015MF	3% 1.4KV	D012	8-719-911-19	DIODE ISS119		
Δ. I-136-591-11	FILM	0.017MF	3% 1.4KV					
				(KV-A2921D)	D013	8-719-109-97	DIODE RD6.8ES-B2	
C818 Δ. I-129-721-51	FILM	0.039MF	10% 630V	D271	8-719-110-31	DIODE RD12ES-B2 (KV-A2121D)		
C819 Δ. I-161-731-51	CERAMIC	0.001MF	10% 2KV	D272	8-719-921-88	DIODE MTZJ-13B (KV-A2521D, A2921D)		
C820 I-137-046-11	FILM	0.0082MF	10% 400V	D501	8-719-911-19	DIODE ISS119		
C821 Δ. I-162-116-51	CERAMIC	680PF	10% 2KV	D504	8-719-911-55	DIODE U05G		
				(KV-A2121D, A2521D)	D506	8-719-800-76	DIODE ISS226 (KV-A2121D, A2521D)	
Δ. I-162-134-51	CERAMIC	470PF	10% 2KV	D508	8-719-911-19	DIODE ISS119		
				(KV-A2921D)	D509	8-719-911-19	DIODE ISS119 (KV-A2521D, A2921D)	
C822 I-163-005-11	CERAMIC CHIP	470PF	10% 50V	D511	8-719-911-55	DIODE U05G		
C823 I-137-043-11	FILM	0.0047MF	10% 400V	D512	8-719-911-55	DIODE U05G		
C824 I-102-212-00	CERAMIC	820PF	10% 500V	D513	8-719-010-34	DIODE UZ-4.7BSC		
C825 I-137-102-11	FILM	0.022MF	10% 250V	D514	8-719-911-19	DIODE ISS119 (KV-A2921D)		
C1601 Δ. I-136-518-11	FILM	0.33MF	20% 300V	D515	8-719-911-19	DIODE ISS119 (KV-A2921D)		
C1602 Δ. I-136-519-11	FILM	0.47MF	20% 300V	D601 Δ. 8-719-510-63		D601 Δ. 8-719-510-63 DIODE D4SB60L-F		
C1603 Δ. I-164-246-61	CERAMIC	0.0022MF	20% 400V	D602	8-719-300-33	DIODE RU-3AM		
C1605 Δ. I-164-246-61	CERAMIC	0.0022MF	20% 400V	D603	8-719-911-55	DIODE U05G		
C1607 Δ. I-161-964-61	CERAMIC	0.0047MF	250V	D604	8-719-911-55	DIODE U05G		
				D605	8-719-911-55	DIODE U05G		
				D606	8-719-300-33	DIODE RU-3AM		
				D607	8-719-300-33	DIODE RU-3AM		
				D608	8-719-300-33	DIODE RU-3AM		
CF001 I-577-364-11	VIBRATOR, CERAMIC			D609	8-719-982-24	DIODE MTZJ-33A		
CF501 I-567-888-11	OSCILLATOR, CERAMIC			D610	8-719-300-59	DIODE CTU-12S		
				D611	8-719-900-26	DIODE ERD29-08J		
				D612	8-719-300-59	DIODE CTU-12S		
				D613	8-719-979-85	DIODE EGP20G		
				D614	8-719-979-85	DIODE EGP20G		
				D616	8-719-921-54	DIODE MTZJ-6.2B		
D1 *I-568-881-51	PIN, CONNECTOR 6P			D617	8-719-911-19	DIODE ISS119		
D2 *I-568-882-51	PIN, CONNECTOR 7P			D618	8-719-109-89	DIODE RD5.6ES-B2		
D11 *I-565-394-11	PIN, BOARD TO BOARD CONNECTOR			D619	8-719-982-24	DIODE MTZJ-33A		
D12 *I-565-394-11	PIN, BOARD TO BOARD CONNECTOR							

<FILTER>

<CONNECTOR>

D1 *I-568-881-51 PIN, CONNECTOR 6P
 D2 *I-568-882-51 PIN, CONNECTOR 7P
 D11 *I-565-394-11 PIN, BOARD TO BOARD CONNECTOR
 D12 *I-565-394-11 PIN, BOARD TO BOARD CONNECTOR

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

D

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
D620	8-719-800-76	DIODE ISS226		T801	Δ .1-437-090-21	HDT	
D621	8-719-982-24	DIODE MTZJ-33A		T802	Δ .1-439-416-51	TRANSFORMER ASSY, FLYBACK (UX-1650)	
D622	8-719-911-19	DIODE ISS119					
D623	8-719-911-19	DIODE ISS119					
D624	8-719-911-19	DIODE ISS119					
D630	8-719-921-91	DIODE MTZJ-15A					
D801	8-719-300-33	DIODE RU-3AM		PS601 Δ	1-532-984-91	LINK, IC (ICP-N50) 2A	
D802	8-719-300-33	DIODE RU-3AM		PS602 Δ	1-532-984-91	LINK, IC (ICP-N50) 2A	
D803	8-719-976-64	DIODE RGP02-17		PS603 Δ	1-532-679-91	LINK, IC (ICP-N15) 0.6A	
D804	8-719-911-55	DIODE U05G		PS604 Δ	1-532-984-91	LINK, IC (ICP-N50) 2A	
D805	8-719-911-55	DIODE U05G					
D806	8-719-945-80	DIODE ERC06-15S					
D807	8-719-945-80	DIODE ERC06-15S (KV-A2521D, A2921D)		Q001	8-729-901-01	TRANSISTOR DTC144EK	
D808	8-719-928-08	DIODE ERD28-08S (KV-A2121D)		Q002	8-729-901-01	TRANSISTOR DTC144EK	
	8-719-900-26	DIODE ERD29-08J (KV-A2521D, A2921D)		Q003	8-729-216-22	TRANSISTOR 2SA1162-G	
				Q004	8-729-216-22	TRANSISTOR 2SA1162-G	
				Q005	8-729-901-01	TRANSISTOR DTC144EK	
				Q006	8-729-901-01	TRANSISTOR DTC144EK	
IC001	8-759-047-60	IC SDA20560-A012		Q007	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC002	8-759-000-47	IC MC14051BCP		Q008	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC003	8-759-945-58	IC RC4558P		Q009	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC005	8-759-748-56	IC SDA2546		Q010	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC251	8-759-988-94	IC TDA2050		Q251	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
	4-812-134-00	RIVET NYLON, 3.5; IC251		Q261	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC261	8-759-988-94	IC TDA2050		Q271	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
	4-812-134-00	RIVET NYLON, 3.5; IC261		Q502	8-729-216-22	TRANSISTOR 2SA1162-G	
IC501	8-759-970-73	IC TEA2028B		Q505	8-729-140-96	TRANSISTOR 2SD774-34	
IC502	8-759-944-57	IC TDA8170		Q506	8-729-140-97	TRANSISTOR 2SB734-34	
IC601	8-759-988-95	IC TEA2260		Q507	8-729-216-22	TRANSISTOR 2SA1162-G	
IC604	8-759-510-52	IC TEA7605		Q598	8-729-216-22	TRANSISTOR 2SA1162-G	
IC608	8-759-929-62	IC LM7812CT		Q601	8-729-122-03	TRANSISTOR 2SA1220A-P	
				Q602	8-729-209-02	TRANSISTOR 2SD1548-LB	
				Q603	8-729-122-03	TRANSISTOR 2SA1220A-P	
				Q604	8-729-216-22	TRANSISTOR 2SA1162-G	
L501	1-408-225-00	INDUCTOR 3.3UH		Q605	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
L601	1-420-872-00	COIL, AIR CORE		Q606	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
L602	1-410-396-41	FERRITE BEAD INDUCTOR		Q607	8-729-920-92	TRANSISTOR 2SD2096-EF	
L603	1-410-396-41	FERRITE BEAD INDUCTOR		Q608	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
L604	1-410-671-31	INDUCTOR 47UH		Q609	8-729-320-62	TRANSISTOR 2SD789-34	
L605	1-459-585-11	COIL (WITH CORE) (DRUM TYPE)		Q801	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
L606	1-412-529-11	INDUCTOR 22UH		Q804	8-729-304-50	TRANSISTOR 2SD1941-06	
L607	1-410-671-31	INDUCTOR 47UH		Q805	8-729-119-80	TRANSISTOR 2SC2688-LK	
L801	1-459-087-00	COIL, HCC DUST CORE 3.9MMH (KV-A2921D)					
L803	1-459-104-00	COIL, WITH CORE					
L804	1-408-239-00	INDUCTOR 4.7MMH					
L805 Δ	1-459-652-12	HLC (KV-A2121D)		JR1	1-216-296-00	METAL GLAZE 0 5% 1/8W	
	Δ .1-459-755-12	COIL, HORIZONTAL LINEARITY (KV-A2521D)		JR3	1-216-296-00	METAL GLAZE 0 5% 1/8W	
	Δ .1-459-907-22	COIL, HORIZONTAL LINEARITY (KV-A2921D)		JR4	1-216-295-00	METAL GLAZE 0 5% 1/10W	
L806	1-459-115-00	COIL, DCC-H (KV-A2121D)		JR7	1-216-296-00	METAL GLAZE 0 5% 1/8W	
	1-459-111-00	COIL, DRAM CORE (CD1) (KV-A2521D)		R001	1-216-041-00	METAL GLAZE 470 5% 1/10W	
	1-459-087-00	COIL, HCC DUST CORE 3.9MMH (KV-A2921D)		R002	1-216-041-00	METAL GLAZE 470 5% 1/10W	
L809	1-420-872-00	COIL, AIR CORE		R003	1-216-198-00	METAL GLAZE 1K 5% 1/8W	
L810 Δ	1-459-390-11	COIL (WITH CORE) (KV-A2121D)		R004	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
	Δ .1-421-982-12	PMC (KV-A2521D)		R005	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
	Δ .1-421-794-51	TRANSFORMER, FERRITE (PMT) (KV-A2921D)		R006	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
				R007	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
				R008	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
				R009	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
				R010	1-216-041-00	METAL GLAZE 470 5% 1/10W	
				R012	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
				R013	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
				R014	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
				R015	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
				R016	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
				R017	1-216-087-11	METAL GLAZE 39K 5% 1/10W	
LF1601 Δ	1-421-866-12	LFT					
LF1602 Δ	1-421-776-21	LFT					
LF1603 Δ	1-421-862-11	LFT					
T601	Δ 1-450-038-11	S.R.T (KV-A2121D, A2521D)					
	Δ 1-450-037-11	S.R.T (KV-A2921D)					
T602	Δ 1-424-277-11	TRANSFORMER, TRIGGER PULSE					

D

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R018	I-216-095-00	METAL GLAZE	82K 5% 1/10W	R085	I-216-049-00	METAL GLAZE	1K 5% 1/10W
R019	I-216-025-00	METAL GLAZE	100 5% 1/10W	R086	I-216-049-00	METAL GLAZE	1K 5% 1/10W
R020	I-216-025-00	METAL GLAZE	100 5% 1/10W	R087	I-216-035-00	METAL GLAZE	270 5% 1/10W
R021	I-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R088	I-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R022	I-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R093	I-216-073-00	METAL GLAZE	10K 5% 1/10W
R024	I-216-073-00	METAL GLAZE	10K 5% 1/10W	R094	I-216-073-00	METAL GLAZE	10K 5% 1/10W
R025	I-216-073-00	METAL GLAZE	10K 5% 1/10W	R095	I-216-073-00	METAL GLAZE	10K 5% 1/10W
R026	I-216-182-00	METAL GLAZE	220 5% 1/8W	R096	I-216-073-00	METAL GLAZE	10K 5% 1/10W
R027	I-216-025-00	METAL GLAZE	100 5% 1/10W	R098	I-216-049-00	METAL GLAZE	1K 5% 1/10W
R028	I-216-025-00	METAL GLAZE	100 5% 1/10W	R251	I-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R029	I-216-073-00	METAL GLAZE	10K 5% 1/10W	R252	I-216-039-00	METAL GLAZE	390 5% 1/10W
R030	I-216-073-00	METAL GLAZE	10K 5% 1/10W	R253	I-216-073-00	METAL GLAZE	10K 5% 1/10W
R031	I-216-081-00	METAL GLAZE	22K 5% 1/10W	R254	I-216-357-00	METAL OXIDE	4.7 5% 1W F
R032	I-216-073-00	METAL GLAZE	10K 5% 1/10W	R255	I-216-073-00	METAL GLAZE	10K 5% 1/10W
R033	I-216-073-00	METAL GLAZE	10K 5% 1/10W	R256	I-216-115-00	METAL GLAZE	560K 5% 1/10W
R034	I-216-077-00	METAL GLAZE	15K 5% 1/10W	R257	I-216-077-00	METAL GLAZE	15K 5% 1/10W
R035	I-216-081-00	METAL GLAZE	22K 5% 1/10W	R258	I-215-869-11	METAL OXIDE	1K 5% 1W F
R036	I-216-083-00	METAL GLAZE	27K 5% 1/10W	R259	I-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R037	I-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R261	I-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R038	I-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R262	I-216-039-00	METAL GLAZE	390 5% 1/10W
R039	I-216-081-00	METAL GLAZE	22K 5% 1/10W	R263	I-216-073-00	METAL GLAZE	10K 5% 1/10W
R040	I-216-077-00	METAL GLAZE	15K 5% 1/10W	R264	I-216-357-00	METAL OXIDE	4.7 5% 1W F
R041	I-216-073-00	METAL GLAZE	10K 5% 1/10W	R265	I-216-073-00	METAL GLAZE	10K 5% 1/10W
R042	I-216-049-00	METAL GLAZE	1K 5% 1/10W	R266	I-216-115-00	METAL GLAZE	560K 5% 1/10W
R043	I-216-041-00	METAL GLAZE	470 5% 1/10W	R267	I-216-077-00	METAL GLAZE	15K 5% 1/10W
R044	I-216-097-00	METAL GLAZE	100K 5% 1/10W	R268	I-215-869-11	METAL OXIDE	1K 5% 1W F
R045	I-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R269	I-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R046	I-216-095-00	METAL GLAZE	82K 5% 1/10W	R270	I-216-073-00	METAL GLAZE	10K 5% 1/10W
R047	I-216-073-00	METAL GLAZE	10K 5% 1/10W	R271	I-216-045-00	METAL GLAZE	680 5% 1/10W
R048	I-216-073-00	METAL GLAZE	10K 5% 1/10W	R272	I-216-073-00	METAL GLAZE	10K 5% 1/10W
R049	I-216-073-00	METAL GLAZE	10K 5% 1/10W	R273	I-216-073-00	METAL GLAZE	10K 5% 1/10W
R050	I-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R274	I-216-073-00	METAL GLAZE	10K 5% 1/10W
R051	I-216-041-00	METAL GLAZE	470 5% 1/10W	R500	I-216-115-00	METAL GLAZE	560K 5% 1/10W
R052	I-216-049-00	METAL GLAZE	1K 5% 1/10W	R501	I-216-041-00	METAL GLAZE	470 5% 1/10W
R053	I-216-049-00	METAL GLAZE	1K 5% 1/10W	R502	I-216-033-00	METAL GLAZE	220 5% 1/10W
R054	I-216-049-00	METAL GLAZE	1K 5% 1/10W	R503	I-216-035-00	METAL GLAZE	270 5% 1/10W
R055	I-216-037-00	METAL GLAZE	330 5% 1/10W	R504	I-249-420-11	CARBON	1.8K 5% 1/4W
R056	I-216-073-00	METAL GLAZE	10K 5% 1/10W	R505	I-216-077-00	METAL GLAZE	15K 5% 1/10W
R057	I-216-025-00	METAL GLAZE	100 5% 1/10W	R506	I-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R058	I-216-049-00	METAL GLAZE	1K 5% 1/10W	R509	I-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R059	I-216-049-00	METAL GLAZE	1K 5% 1/10W	R510	I-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R060	I-216-049-00	METAL GLAZE	1K 5% 1/10W	R514	I-216-033-00	METAL GLAZE	220 5% 1/10W
R061	I-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R515	I-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R062	I-216-049-00	METAL GLAZE	1K 5% 1/10W	R517	I-216-073-00	METAL GLAZE	10K 5% 1/10W
R063	I-216-049-00	METAL GLAZE	1K 5% 1/10W	R518	I-216-089-00	METAL GLAZE	47K 5% 1/10W
R064	I-216-049-00	METAL GLAZE	1K 5% 1/10W	R519	I-216-081-00	METAL GLAZE	22K 5% 1/10W
R065	I-216-049-00	METAL GLAZE	1K 5% 1/10W	R520	I-216-037-00	METAL GLAZE	330 5% 1/10W
R066	I-216-049-00	METAL GLAZE	1K 5% 1/10W	R521	I-216-025-00	METAL GLAZE	100 5% 1/10W
R067	I-216-073-00	METAL GLAZE	10K 5% 1/10W	R522	I-215-469-00	METAL GLAZE	100K 1% 1/4W
R068	I-216-174-00	METAL GLAZE	100 5% 1/8W	R523	I-216-049-00	METAL GLAZE	1K 5% 1/10W
R069	I-216-174-00	METAL GLAZE	100 5% 1/8W	R524	I-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R070	I-216-198-00	METAL GLAZE	1K 5% 1/8W	R525	I-216-049-00	METAL GLAZE	1K 5% 1/10W (KV-A2121D, A2521D)
R071	I-216-198-00	METAL GLAZE	1K 5% 1/8W	R526	I-249-409-11	CARBON	220 5% 1/4W F
R072	I-216-222-00	METAL GLAZE	10K 5% 1/8W	R527	I-216-077-00	METAL GLAZE	15K 5% 1/10W
R073	I-216-073-00	METAL GLAZE	10K 5% 1/10W	R528	I-216-031-00	METAL GLAZE	180 5% 1/10W
R075	I-216-041-00	METAL GLAZE	470 5% 1/10W	R529	I-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R076	I-216-073-00	METAL GLAZE	10K 5% 1/10W	R530	I-249-448-11	CARBON	1.2 5% 1/4W F
R077	I-216-049-00	METAL GLAZE	1K 5% 1/10W	R531	I-216-099-00	METAL GLAZE	120K 5% 1/10W (KV-A2521D, A2921D)
R078	I-216-198-00	METAL GLAZE	1K 5% 1/8W	R532	I-216-049-00	METAL GLAZE	1K 5% 1/10W
R079	I-216-073-00	METAL GLAZE	10K 5% 1/10W	R533	I-216-031-00	METAL GLAZE	180 5% 1/10W (KV-A2121D)
R080	I-216-073-00	METAL GLAZE	10K 5% 1/10W				
R081	I-216-073-00	METAL GLAZE	10K 5% 1/10W				
R083	I-216-049-00	METAL GLAZE	1K 5% 1/10W				
R084	I-216-049-00	METAL GLAZE	1K 5% 1/10W				

The components identified by shading and mark **Δ** are critical for safety.
Replace only with part number specified.

D

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R534	I-216-295-00	METAL GLAZE	0 5% 1/10W (KV-A2521D, A2921D)	R605	I-216-081-00	METAL GLAZE	22K 5% 1/10W
R535	I-216-119-00	METAL GLAZE	820K 5% 1/10W	R606	I-216-051-00	METAL GLAZE	1.2K 5% 1/10W
	I-249-753-15	CARBON	4.7M 5% 1/4W	R607	I-216-065-00	METAL GLAZE	4.7K 5% 1/10W (KV-A2121D, A2521D)
	I-249-749-00	CARBON	2.2M 5% 1/4W (KV-A2521D, A2921D)		I-216-067-00	METAL GLAZE	5.6K 5% 1/10W (KV-A2921D)
R536	I-216-129-00	METAL GLAZE	2.2M 5% 1/10W	R608	I-216-488-11	METAL OXIDE	18K 5% 3W F
R537	I-216-083-00	METAL GLAZE	27K 5% 1/10W	R609	I-216-007-00	METAL GLAZE	18 5% 1/10W
R538	I-216-101-00	METAL GLAZE	150K 5% 1/10W	R610	I-244-941-00	CARBON	680K 5% 1/2W
R539	I-216-101-00	METAL GLAZE	150K 5% 1/10W	R611	I-216-015-00	METAL GLAZE	39 5% 1/10W
R540	I-216-013-00	METAL GLAZE	33 5% 1/10W	R612	I-216-049-00	METAL GLAZE	1K 5% 1/10W
R541	I-216-091-00	METAL GLAZE	56K 5% 1/10W	R613	I-216-097-00	METAL GLAZE	100K 5% 1/10W
R542	I-216-308-00	METAL GLAZE	4.7 5% 1/10W	R614	I-205-758-11	WIREWOUND	100 10% 10W F
R543	I-249-451-11	CARBON	2.2 5% 1/4W	R616	I-216-099-00	METAL GLAZE	120K 5% 1/10W
R544	I-247-745-11	CARBON	330 5% 1/2W	R617	I-216-037-00	METAL GLAZE	330 5% 1/10W
R545	I-216-689-11	METAL GLAZE	39K 5% 1/10W (KV-A2121D)	R618	I-216-431-11	METAL OXIDE	560 5% 1W F
	I-216-081-00	METAL GLAZE	22K 5% 1/10W	R619	I-216-073-00	METAL GLAZE	10K 5% 1/10W
R546	I-216-083-00	METAL GLAZE	27K 5% 1/10W (KV-A2521D, A2921D)	R620	I-216-081-00	METAL GLAZE	22K 5% 1/10W
R547	I-216-067-00	METAL GLAZE	5.6K 5% 1/10W (KV-A2121D)	R621	I-216-077-00	METAL GLAZE	15K 5% 1/10W
	I-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R622	I-216-073-00	METAL GLAZE	10K 5% 1/10W
R548	I-216-350-11	METAL OXIDE	1.2 5% 1W F (KV-A2521D, A2921D)	R623	I-216-081-00	METAL GLAZE	22K 5% 1/10W
	I-216-349-00	METAL OXIDE	1 5% 1W F (KV-A2521D, A2921D)	R624	I-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R549	I-215-890-11	METAL OXIDE	470 5% 2W F (KV-A2121D)	R625	I-215-865-11	METAL OXIDE	220 5% 1W F
	I-216-454-11	METAL OXIDE	390 5% 2W F (KV-A2521D, A2921D)	R626	I-216-037-00	METAL GLAZE	330 5% 1/10W
R550	I-216-095-00	METAL GLAZE	82K 5% 1/10W	R628	I-216-001-00	METAL GLAZE	10 5% 1/10W
R551	I-216-129-00	METAL GLAZE	2.2M 5% 1/10W	R629	I-216-037-00	METAL GLAZE	330 5% 1/10W
R552	I-216-433-00	METAL OXIDE	1.2K 5% 1W F (KV-A2121D)	R631	I-216-465-11	METAL OXIDE	27K 5% 2W (KV-A2121D, A2521D)
R553	I-215-869-11	METAL OXIDE	1K 5% 1W F	R633	I-216-049-00	METAL GLAZE	1K 5% 1/10W
R554	I-216-037-00	METAL GLAZE	330 5% 1/10W	R634	I-216-430-11	METAL OXIDE	390 5% 1W F
R555	I-216-129-00	METAL GLAZE	2.2M 5% 1/10W	R635	I-216-073-00	METAL GLAZE	10K 5% 1/10W
R556	I-216-025-00	METAL GLAZE	100 5% 1/10W	R636	I-216-073-00	METAL GLAZE	10K 5% 1/10W (KV-A2121D)
R557	I-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R643	I-217-190-21	WIREWOUND	0.15 5% 2W F (KV-A2121D)
R558	I-216-113-00	METAL GLAZE	470K 5% 1/10W		I-217-189-21	WIREWOUND	0.12 5% 2W F (KV-A2521D, A2921D)
R559	I-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R651	I-216-025-00	METAL GLAZE	100 5% 1/10W
	I-216-037-00	METAL GLAZE	1K 5% 1/10W	R653	I-205-758-11	WIREWOUND	100 10% 10W F
R560	I-216-037-00	METAL GLAZE	330 5% 1/10W	R802	I-249-443-11	CARBON	0.47 5% 1/4W F
R561	I-216-107-00	METAL GLAZE	270K 5% 1/10W (KV-A2921D)	R805	I-249-448-11	CARBON	1.2 5% 1/4W F
R570	I-216-045-00	METAL GLAZE	680 5% 1/10W (KV-A2921D)	R806	I-216-093-00	METAL GLAZE	68K 5% 1/10W
R591	I-216-047-00	METAL GLAZE	820 5% 1/10W	R807	I-217-778-11	FUSIBLE	1K 5% 1W F
R592	I-216-049-00	METAL GLAZE	1K 5% 1/10W	R809	I-202-821-11	SOLID	1.8K 10% 1/2W
R593	I-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R810	I-202-818-00	SOLID	1K 10% 1/2W
R594	I-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R811	I-215-863-11	METAL OXIDE	100 5% 1W F (KV-A2121D)
R597	I-216-041-00	METAL GLAZE	470 5% 1/10W		I-215-882-00	METAL OXIDE	22 5% 2W F (KV-A2521D, A2921D)
R598	I-215-900-11	METAL OXIDE	22K 5% 2W F	R812	I-247-285-00	CARBON	75K 5% 1/2W (KV-A2121D)
R600	I-249-381-11	CARBON	1 5% 1/4W		I-249-494-11	CARBON	68K 5% 1/2W
R601	I-216-353-00	METAL OXIDE	2.2 5% 1W F		I-247-281-00	CARBON	51K 5% 1/2W (KV-A2921D)
R603	I-215-906-11	METAL OXIDE	15 5% 3W F		I-216-049-00	METAL GLAZE	1K 5% 1/10W
	I-216-469-11	METAL OXIDE	12 5% 3W F (KV-A2521D, A2921D)	R817	I-249-403-11	CARBON	68 5% 1/4W
R604	I-216-025-00	METAL GLAZE	100 5% 1/10W	R820	I-247-725-11	CARBON	10K 5% 1/4W F
				R821	I-217-778-61	FUSIBLE	1K 5% 1W F
				R822	I-216-349-00	METAL OXIDE	1 5% 1W F (KV-A2921D)
				R825	I-216-345-11	METAL OXIDE	0.47 5% 1W F (KV-A2521D, A2921D)

D **VM** **V**

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK			
R826	I-216-097-00	METAL GLAZE	100K 5%	1/10W	R751	I-249-418-11	CARBON	1.2K 5%	1/4W	
R827	I-216-073-00	METAL GLAZE	10K 5%	1/10W	R752	I-249-426-11	CARBON	5.6K 5%	1/4W	
R828	I-216-059-00	METAL GLAZE	2.7K 5%	1/10W	R753	I-249-414-11	CARBON	560 5%	1/4W	
R829	I-216-051-00	METAL GLAZE	1.2K 5%	1/10W	R754	I-249-434-11	CARBON	27K 5%	1/4W	
R831	I-249-451-11	CARBON	2.2 5%	1/4W	R755	I-249-405-11	CARBON	100 5%	1/4W	
R1601 Δ	I-246-513-75	CARBON	47K 5%	1/4W	R756	I-249-419-11	CARBON	1.5K 5%	1/4W	
R1602 Δ	I-244-945-91	CARBON	1M 5%	1/2W	R757	I-249-405-11	CARBON	100 5%	1/4W	
R1603 Δ	I-217-328-11	WIREWOUND	2.7 10%	7W F	R758	I-249-409-11	CARBON	220 5%	1/4W	
R1604 Δ	I-246-513-75	CARBON	47K 5%	1/4W	R760	I-249-411-11	CARBON	330 5%	1/4W	
R1605 Δ	I-218-265-91	METAL GLAZE	8.2M 5%	1W	R761	I-249-429-11	CARBON	10K 5%	1/4W	
R5501	I-216-073-00	METAL GLAZE	10K 5%	1/10W	R762	I-247-895-00	CARBON	470K 5%	1/4W	
R5503	I-216-308-00	METAL GLAZE	4.7 5%	1/10W	R763	I-249-429-11	CARBON	10K 5%	1/4W	
				(KV-A2121D, A2521D)	R764	I-249-455-11	CARBON	4.7 5%	1/4W F	
	I-216-001-00	METAL GLAZE	10 5%	1/10W	R765	I-249-455-11	CARBON	4.7 5%	1/4W F	
				(KV-A2921D)	R766	I-247-753-11	CARBON	1.2K 5%	1/2W	
R5504	I-216-121-00	METAL GLAZE	1M 5%	1/10W	R767	I-247-751-11	CARBON	820 5%	1/2W	
R5505	I-216-001-00	METAL GLAZE	10 5%	1/10W	R768	I-215-887-00	METAL OXIDE	150 5%	2W F	
R5506	I-216-075-00	METAL GLAZE	12K 5%	1/10W	R769 Δ	I-212-889-51	FUSIBLE	220 5%	1/4W F	
				(KV-A2921D)						
<CONNECTOR>										
RV501	I-238-013-11	RES, ADJ, CARBON	2.2K		VM73	*I-568-878-51	PIN, CONNECTOR 3P			
RV502	I-238-016-11	RES, ADJ, CARBON	10K		VM88	*I-568-878-51	PIN, CONNECTOR 3P			
RV601	I-238-011-11	RES, ADJ, CARBON	470							

*A-1645-013-A V BOARD, COMPLETE										

<SPARK GAP>										
SG801	I-519-422-11	GAP, SPARK								
<CAPACITOR>										
<THERMISTOR>										
THP601 Δ	I-808-059-32	THERMISTOR, POSITIVE			C1	I-126-101-11	ELECT	100MF	20% 16V	

*I-634-193-11 VM BOARD (KV-A2921D)										

<CAPACITOR>										
C751	I-101-361-00	CERAMIC	150PF	5%	50V	C14	I-124-927-11	ELECT	4.7MF	20% 50V
C752	I-108-629-11	MYLAR	0.018MF	10%	100V	C15	I-124-927-11	ELECT	4.7MF	20% 50V
C753	I-137-047-11	FILM	0.01MF	10%	400V	C16	I-163-141-00	CERAMIC CHIP	0.001MF	5% 50V
C754	I-102-980-00	CERAMIC	270PF	5%	50V	C17	I-163-141-00	CERAMIC CHIP	0.001MF	5% 50V
C755	I-108-692-11	MYLAR	0.01MF	10%	200V	C18	I-163-141-00	CERAMIC CHIP	0.001MF	5% 50V
C759	I-124-907-11	ELECT	10MF	20%	50V	C26	I-163-038-00	CERAMIC CHIP	0.1MF	25V
C760	I-124-917-11	ELECT	33MF	20%	50V	C27	I-163-117-00	CERAMIC CHIP	100PF	5% 50V
C761	I-101-006-00	CERAMIC	0.047MF		50V	C28	I-163-117-00	CERAMIC CHIP	100PF	5% 50V
C762	I-137-047-11	FILM	0.01MF	10%	400V	C29	I-163-117-00	CERAMIC CHIP	100PF	5% 50V
					C32	I-163-038-00	CERAMIC CHIP	0.1MF	25V	
<COIL>										
L751	I-408-413-00	INDUCTOR	22UH		C33	I-163-038-00	CERAMIC CHIP	0.1MF		
L770	I-410-665-31	INDUCTOR	15UH							
<CONNECTOR>										
CNV1	*I-565-393-11	CONNECTOR, BOARD TO BOARD								
CNV2	*I-565-393-11	CONNECTOR, BOARD TO BOARD								
<TRANSISTOR>										
Q751	8-729-119-78	TRANSISTOR	2SC2785-HFE							
Q752	8-729-119-78	TRANSISTOR	2SC2785-HFE							
Q753	8-729-140-97	TRANSISTOR	2SB734-34							
Q754	8-729-140-96	TRANSISTOR	2SD774-34							
<RESISTOR>										
D1	8-719-105-91	DIODE	RD5.6M-B2							
D3	8-719-914-44	DIODE	DAP202K							
D4	8-719-400-18	DIODE	MA152WK							
D5	8-719-914-44	DIODE	DAP202K							

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

V H1

H1 **H2** **J1**

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK				
<RESISTOR>											
R1651	1-249-413-11	CARBON	470	5%	1/4W	C228	1-137-104-11	FILM	0.033MF	10%	250V
R1652	1-249-413-11	CARBON	470	5%	1/4W	C229	1-137-049-11	FILM	0.015MF	10%	400V
<SWITCH>											
S1651	1-571-532-21	SWITCH, TACTIL				C230	1-137-049-11	FILM	0.015MF	10%	400V
S1652	1-571-532-21	SWITCH, TACTIL				C231	1-124-902-00	ELECT	0.47MF	20%	50V
S1653	1-571-532-21	SWITCH, TACTIL				C232	1-124-907-11	ELECT	10MF	20%	50V

*1-638-392-11	H2 BOARD			C233	1-163-005-11	CERAMIC CHIP	470PF	10%	50V		

*4-374-987-01	GUIDE, LIGHT			C234	1-163-005-11	CERAMIC CHIP	470PF	10%	50V		
*4-381-686-01	BRACKET (B), LIGHT GUIDE			C235	1-163-005-11	CERAMIC CHIP	470PF	10%	50V		
<DIODE>											
D1651	8-719-948-31	DIODE LD-201VR		C236	1-163-005-11	CERAMIC CHIP	470PF	10%	50V		
*4-201-076-01											
D1652	8-719-948-31	DIODE LD-201VR		C237	1-124-902-00	ELECT	0.47MF	20%	50V		
*4-201-076-01											
D1654	8-719-948-31	DIODE LD-201VR		C238	1-163-125-00	CERAMIC CHIP	220PF	5%	50V		
*4-201-076-01											
HOLDER, LED; D1654											
<CONNECTOR>											
H2-2	*1-568-882-51	PIN, CONNECTOR 7P		C1401	1-124-907-11	ELECT	10MF	20%	50V		
<IC>											
IC1651	8-741-101-75	IC SBX1610-11		C1402	1-126-103-11	ELECT	470MF	20%	16V		
<RESISTOR>											
R1662	1-249-413-11	CARBON	470	5%	1/4W	C1403	1-163-003-11	CERAMIC CHIP	330PF	10%	50V

*A-1651-018-A											
J1 BOARD, COMPLETE (KV-A2121D, A2521D)											

*A-1651-020-A											
J1 BOARD, COMPLETE (KV-A2921D)											

<CAPACITOR>											
C203	1-124-925-11	ELECT	2.2MF	20%	50V	C1431	1-126-529-11	ELECT	0.47MF	20%	50V
C205	1-124-927-11	ELECT	4.7MF	20%	50V	C1432	1-124-902-00	ELECT	0.47MF	20%	50V
C206	1-124-925-11	ELECT	2.2MF	20%	50V	C1433	1-124-122-11	ELECT	100MF	20%	50V
C207	1-124-927-11	ELECT	4.7MF	20%	50V	C1436	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C213	1-126-233-11	ELECT	22MF	20%	50V	C1437	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C214	1-137-045-11	FILM	0.0068MF	10%	400V	C1438	1-137-047-11	FILM	0.01MF	10%	400V
C217	1-137-045-11	FILM	0.0068MF	10%	400V	C1439	1-137-047-11	FILM	0.01MF	10%	400V
C218	1-137-102-11	FILM	0.022MF	10%	250V	C1440	1-124-907-11	ELECT	10MF	20%	50V
C219	1-137-102-11	FILM	0.022MF	10%	250V	C1441	1-124-907-11	ELECT	10MF	20%	50V
C220	1-108-686-11	MYLAR	0.0033MF	10%	100V	C1442	1-137-098-11	FILM	0.1MF	10%	100V
C221	1-108-686-11	MYLAR	0.0033MF	10%	100V	C1443	1-137-098-11	FILM	0.1MF	10%	100V
C222	1-137-095-11	FILM	0.056MF	10%	100V	C1444	1-124-910-11	ELECT	47MF	20%	50V
C223	1-137-095-11	FILM	0.056MF	10%	100V	C1445	1-102-824-00	CERAMIC	470PF	5%	50V
C224	1-137-047-11	FILM	0.01MF	10%	400V	C1446	1-102-824-00	CERAMIC	470PF	5%	50V
C225	1-136-173-00	FILM	0.47MF	5%	50V	C1501	1-124-927-11	ELECT	4.7MF	20%	50V
C226	1-136-173-00	FILM	0.47MF	5%	50V	C1502	1-124-903-11	ELECT	1MF	20%	50V
C227	1-137-102-11	FILM	0.022MF	10%	250V	C1503	1-108-680-11	MYLAR	0.001MF	10%	100V
C1504											
C1505											
C1506											
C1507											

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C1508	1-124-903-11	ELECT	1MF	20%	50V		
C1509	1-124-903-11	ELECT	1MF	20%	50V		
C1511	1-124-927-11	ELECT	4.7MF	20%	50V		
C1512	1-137-045-11	FILM	0.0068MF	10%	400V		
			(KV-A2121D, A2521D)			<TRANSISTOR>	
C1513	1-163-105-00	CERAMIC CHIP	33PF	5%	50V	Q201	8-729-120-28 TRANSISTOR 2SC1623-L5L6
C1514	1-137-102-11	FILM	0.022MF	10%	250V	Q202	8-729-120-28 TRANSISTOR 2SC1623-L5L6
C1515	1-102-117-00	CERAMIC	820PF	10%	50V	Q1401	8-729-216-22 TRANSISTOR 2SA1162-G
			(KV-A2121D, A2521D)			Q1402	8-729-120-28 TRANSISTOR 2SC1623-L5L6
						Q1403	8-729-120-28 TRANSISTOR 2SC1623-L5L6
						Q1404	8-729-216-22 TRANSISTOR 2SA1162-G
<CONNECTOR>				<RESISTOR>			
CN1401	1-565-838-11	JACK BLOCK, PIN 2P		R201	1-216-079-00	METAL GLAZE	18K 5% 1/10W
J1-41	*1-566-641-11	CONNECTOR, HINGE (TAB)	18P	R202	1-216-206-00	METAL GLAZE	2.2K 5% 1/8W
J1-43	*1-564-524-11	PLUG, CONNECTOR 9P		R203	1-216-075-00	METAL GLAZE	12K 5% 1/10W
J1-44	*1-564-527-11	PLUG, CONNECTOR 12P		R204	1-216-085-00	METAL GLAZE	33K 5% 1/10W
J1-51	*1-566-641-11	CONNECTOR, HINGE (TAB)	18P	R205	1-216-085-00	METAL GLAZE	33K 5% 1/10W
<DIODE>				R206	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
D201	8-719-110-14	DIODE RD9.1ES-B3		R207	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
D202	8-719-110-14	DIODE RD9.1ES-B3		R208	1-216-077-00	METAL GLAZE	15K 5% 1/10W
D205	8-719-110-03	DIODE RD7.5ES-B2		R209	1-216-081-00	METAL GLAZE	22K 5% 1/10W
D206	8-719-110-03	DIODE RD7.5ES-B2		R210	1-216-077-00	METAL GLAZE	15K 5% 1/10W
D1401	8-719-110-03	DIODE RD7.5ES-B2		R211	1-216-097-00	METAL GLAZE	100K 5% 1/10W
D1403	8-719-110-03	DIODE RD7.5ES-B2		R212	1-216-081-00	METAL GLAZE	22K 5% 1/10W
D1404	8-719-110-03	DIODE RD7.5ES-B2		R213	1-216-077-00	METAL GLAZE	15K 5% 1/10W
D1405	8-719-110-03	DIODE RD7.5ES-B2		R214	1-216-033-00	METAL GLAZE	220 5% 1/10W
D1406	8-719-110-03	DIODE RD7.5ES-B2		R215	1-216-081-00	METAL GLAZE	22K 5% 1/10W
D1407	8-719-921-77	DIODE MTZN-10C		R216	1-216-081-00	METAL GLAZE	22K 5% 1/10W
D1408	8-719-110-14	DIODE RD9.1ES-B3		R217	1-216-077-00	METAL GLAZE	15K 5% 1/10W
D1409	8-719-110-14	DIODE RD9.1ES-B3		R218	1-216-033-00	METAL GLAZE	220 5% 1/10W
D1410	8-719-110-14	DIODE RD9.1ES-B3		R219	1-216-073-00	METAL GLAZE	10K 5% 1/10W
D1415	8-719-110-03	DIODE RD7.5ES-B2		R220	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
D1418	8-719-110-03	DIODE RD7.5ES-B2		R221	1-216-041-00	METAL GLAZE	470 5% 1/10W
D1419	8-719-110-03	DIODE RD7.5ES-B2		R222	1-216-041-00	METAL GLAZE	470 5% 1/10W
D1420	8-719-110-03	DIODE RD7.5ES-B2		R223	1-216-049-00	METAL GLAZE	1K 5% 1/10W
D1421	8-719-110-03	DIODE RD7.5ES-B2		R224	1-216-049-00	METAL GLAZE	1K 5% 1/10W
D1422	8-719-110-03	DIODE RD7.5ES-B2		R225	1-216-049-00	METAL GLAZE	1K 5% 1/10W
D1423	8-719-110-03	DIODE RD7.5ES-B2		R226	1-216-049-00	METAL GLAZE	1K 5% 1/10W
D1424	8-719-110-03	DIODE RD7.5ES-B2		R227	1-216-033-00	METAL GLAZE	220 5% 1/10W
D1425	8-719-110-03	DIODE RD7.5ES-B2		R228	1-216-033-00	METAL GLAZE	220 5% 1/10W
D1426	8-719-110-03	DIODE RD7.5ES-B2		R229	1-216-075-00	METAL GLAZE	12K 5% 1/10W
D1501	8-719-300-33	DIODE RU-3AM		R230	1-216-079-00	METAL GLAZE	18K 5% 1/10W
D1502	8-719-911-19	DIODE ISS119		R231	1-216-073-00	METAL GLAZE	10K 5% 1/10W
D1503	8-719-911-19	DIODE ISS119		R232	1-216-073-00	METAL GLAZE	10K 5% 1/10W
D1504	8-719-911-19	DIODE ISS119		R233	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
D1505	8-719-911-19	DIODE ISS119		R234	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
D1506	8-719-982-33	DIODE MTZJ-36D		R235	1-216-295-00	METAL GLAZE	0 5% 1/10W
D1507	8-719-911-19	DIODE ISS119		R236	1-216-295-00	METAL GLAZE	0 5% 1/10W
D1510	8-719-911-19	DIODE ISS119		R240	1-216-033-00	METAL GLAZE	220 5% 1/10W
				R241	1-216-091-00	METAL GLAZE	56K 5% 1/10W
				R242	1-216-091-00	METAL GLAZE	56K 5% 1/10W
				R243	1-216-075-00	METAL GLAZE	12K 5% 1/10W
<IC>				R244	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
IC201	8-759-013-17	IC TDA6200		R245	1-216-075-00	METAL GLAZE	12K 5% 1/10W
IC1401	8-752-053-17	IC CXA1114P		R246	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
IC1402	8-759-946-32	IC TBA2014A		R247	1-216-075-00	METAL GLAZE	12K 5% 1/10W
IC1403	8-759-140-53	IC UPD4053BC		R248	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
IC1501	8-759-942-16	IC TBA2031A		R249	1-216-075-00	METAL GLAZE	12K 5% 1/10W
<JACK>				R250	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
J1402	1-561-534-41	SOCKET 21P		R1400	1-216-295-00	METAL GLAZE	0 5% 1/10W
J1403	1-561-534-41	SOCKET 21P		R1401	1-216-023-00	METAL GLAZE	82 5% 1/10W
				R1402	1-216-170-00	METAL GLAZE	68 5% 1/8W
				R1403	1-216-089-00	METAL GLAZE	47K 5% 1/10W

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R1404	1-216-178-00	METAL GLAZE	150 5% 1/8W	R1478	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R1405	1-249-434-11	CARBON	27K 5% 1/4W	R1480	1-216-190-00	METAL GLAZE	470 5% 1/8W
R1407	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R1482	1-216-178-00	METAL GLAZE	150 5% 1/8W
R1408	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1483	1-216-178-00	METAL GLAZE	150 5% 1/8W
R1409	1-216-041-00	METAL GLAZE	470 5% 1/10W	R1484	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1410	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1485	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1411	1-216-041-00	METAL GLAZE	470 5% 1/10W	R1486	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1412	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1487	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R1413	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R1488	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R1414	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1489	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R1415	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R1501	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R1416	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R1502	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R1417	1-216-023-00	METAL GLAZE	82 5% 1/10W	R1503	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R1418	1-247-738-11	CARBON	82 5% 1/2W F	R1504	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R1419	1-216-295-00	METAL GLAZE	0 5% 1/10W	R1505	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R1420	1-216-295-00	METAL GLAZE	0 5% 1/10W	R1506	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R1421	1-216-295-00	METAL GLAZE	0 5% 1/10W	R1509	1-216-105-00	METAL GLAZE	220K 5% 1/10W
R1422	1-216-025-00	METAL GLAZE	100 5% 1/10W	R1510	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R1423	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R1511	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R1424	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R1512	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1425	1-216-045-00	METAL GLAZE	680 5% 1/10W	R1513	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R1426	1-216-025-00	METAL GLAZE	100 5% 1/10W	R1514	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R1427	1-216-001-00	METAL GLAZE	10 5% 1/10W	R1515	1-216-117-00	METAL GLAZE	680K 5% 1/10W
R1428	1-216-113-00	METAL GLAZE	470K 5% 1/10W	(KV-A2121D, A2521D)			
R1429	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R1516	1-216-079-00	METAL GLAZE	18K 5% 1/10W
R1430	1-216-170-00	METAL GLAZE	68 5% 1/8W	R1517	1-216-033-00	METAL GLAZE	220 5% 1/10W
R1431	1-216-041-00	METAL GLAZE	470 5% 1/10W	R1519	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R1432	1-216-041-00	METAL GLAZE	470 5% 1/10W	R1520	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R1433	1-216-033-00	METAL GLAZE	220 5% 1/10W	(KV-A2121D, A2521D)			
R1434	1-249-393-11	CARBON	10 5% 1/4W F	1-216-111-00 METAL GLAZE 390K 5% 1/10W (KV-A2921D)			
R1437	1-249-434-11	CARBON	27K 5% 1/4W	R1521	1-216-214-00	METAL GLAZE	4.7K 5% 1/8W
R1440	1-216-045-00	METAL GLAZE	680 5% 1/10W	R1550	1-216-349-00	METAL OXIDE	1 5% 1W F
R1441	1-216-045-00	METAL GLAZE	680 5% 1/10W	R1556	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R1442	1-216-089-00	METAL GLAZE	47K 5% 1/10W	<VARIABLE RESISTOR>			
R1443	1-216-089-00	METAL GLAZE	47K 5% 1/10W	RV1501	1-238-023-11	RES, ADJ, CARBON	470K
R1444	1-216-033-00	METAL GLAZE	220 5% 1/10W	RV1502	1-238-016-11	RES, ADJ, CARBON	10K
R1445	1-216-095-00	METAL GLAZE	82K 5% 1/10W	RV1503	1-238-017-11	RES, ADJ, CARBON	22K
R1446	1-216-033-00	METAL GLAZE	220 5% 1/10W	RV1504	1-238-012-11	RES, ADJ, CARBON	1K
R1447	1-216-033-00	METAL GLAZE	220 5% 1/10W	RV1505	1-238-023-11	RES, ADJ, CARBON	470K
R1448	1-216-025-00	METAL GLAZE	100 5% 1/10W	RV1506	1-238-017-11	RES, ADJ, CARBON	22K
R1449	1-216-023-00	METAL GLAZE	82 5% 1/10W	RV1507	1-238-009-11	RES, ADJ, CARBON	220
R1452	1-216-049-00	METAL GLAZE	1K 5% 1/10W	RV1508	1-238-016-11	RES, ADJ, CARBON	10K
R1453	1-216-049-00	METAL GLAZE	1K 5% 1/10W	RV1509	1-238-023-11	RES, ADJ, CARBON	470K
R1454	1-216-180-00	METAL GLAZE	180 5% 1/8W	*****			
R1455	1-216-180-00	METAL GLAZE	180 5% 1/8W	*A-1654-004-A	IFG BOARD, COMPLETE		
R1457	1-216-025-00	METAL GLAZE	100 5% 1/10W	*****			
R1459	1-216-025-00	METAL GLAZE	100 5% 1/10W	<CAPACITOR>			
R1460	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	C1	1-163-031-11	CERAMIC CHIP 0.01MF	50V
R1461	1-216-190-00	METAL GLAZE	470 5% 1/8W	C2	1-163-031-11	CERAMIC CHIP 0.01MF	50V
R1462	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	C3	1-163-031-11	CERAMIC CHIP 0.01MF	50V
R1463	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C4	1-163-031-11	CERAMIC CHIP 0.01MF	50V
R1464	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	C5	1-163-031-11	CERAMIC CHIP 0.01MF	50V
R1465	1-216-023-00	METAL GLAZE	82 5% 1/10W	C6	1-163-031-11	CERAMIC CHIP 0.01MF	50V
R1466	1-216-033-00	METAL GLAZE	220 5% 1/10W	C7	1-124-903-11	ELECT 1MF	20% 50V
R1467	1-216-025-00	METAL GLAZE	100 5% 1/10W	C8	1-124-907-11	ELECT 10MF	20% 50V
R1468	1-216-025-00	METAL GLAZE	100 5% 1/10W	C9	1-130-471-00	MYLAR 0.001MF	5% 50V
R1469	1-216-025-00	METAL GLAZE	100 5% 1/10W	C10	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
R1470	1-216-025-00	METAL GLAZE	100 5% 1/10W				
R1471	1-216-023-00	METAL GLAZE	82 5% 1/10W				
R1472	1-216-023-00	METAL GLAZE	82 5% 1/10W				
R1473	1-216-023-00	METAL GLAZE	82 5% 1/10W				
R1474	1-216-113-00	METAL GLAZE	470K 5% 1/10W				
R1476	1-216-089-00	METAL GLAZE	47K 5% 1/10W				
R1477	1-216-089-00	METAL GLAZE	47K 5% 1/10W				

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

IFG

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK	
C11	1-163-119-00	CERAMIC CHIP 120PF	5%	50V				
C12	1-136-298-00	FILM 0.0033MF	2%	100V				
C13	1-124-477-11	ELECT 47MF	20%	16V				
C14	1-124-477-11	ELECT 47MF	20%	16V				
C15	1-124-477-11	ELECT 47MF	20%	16V	JR8	1-216-296-00	METAL GLAZE 0	5% 1/8W
C16	1-124-477-11	ELECT 47MF	20%	16V	JR10	1-216-296-00	METAL GLAZE 0	5% 1/8W
C17	1-124-907-11	ELECT 10MF	20%	50V	R1	1-216-045-00	METAL GLAZE 680	5% 1/10W
C18	1-137-047-11	FILM 0.01MF	10%	400V	R2	1-216-043-00	METAL GLAZE 560	5% 1/10W
C19	1-137-047-11	FILM 0.01MF	10%	400V	R3	1-216-043-00	METAL GLAZE 560	5% 1/10W
C20	1-126-233-11	ELECT 22MF	20%	50V	R5	1-216-045-00	METAL GLAZE 680	5% 1/10W
C21	1-126-233-11	ELECT 22MF	20%	50V	R6	1-216-043-00	METAL GLAZE 560	5% 1/10W
C22	1-137-098-11	FILM 0.1MF	10%	100V	R7	1-216-043-00	METAL GLAZE 560	5% 1/10W
C23	1-137-031-11	FILM 0.22MF	10%	100V	R9	1-216-073-00	METAL GLAZE 10K	5% 1/10W
C24	1-124-034-51	ELECT 33MF	20%	16V	R11	1-216-095-00	METAL GLAZE 82K	5% 1/10W
C25	1-137-102-11	FILM 0.022MF	10%	250V	R12	1-216-097-00	METAL GLAZE 100K	5% 1/10W
C26	1-137-094-11	FILM 0.047MF	10%	100V	R13	1-216-071-00	METAL GLAZE 8.2K	5% 1/10W
C27	1-124-903-11	ELECT 1MF	20%	50V	R15	1-216-059-00	METAL GLAZE 2.7K	5% 1/10W
C28	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	R16	1-216-097-00	METAL GLAZE 100K	5% 1/10W
C29	1-124-903-11	ELECT 1MF	20%	50V	R17	1-216-097-00	METAL GLAZE 100K	5% 1/10W
C30	1-124-903-11	ELECT 1MF	20%	50V	R18	1-216-063-00	METAL GLAZE 3.9K	5% 1/10W
C31	1-137-047-11	FILM 0.01MF	10%	400V	R19	1-216-097-00	METAL GLAZE 100K	5% 1/10W
C32	1-130-479-00	MYLAR 0.0047MF	5%	50V	R20	1-216-075-00	METAL GLAZE 12K	5% 1/10W
C33	1-163-081-00	CERAMIC CHIP 0.22MF	25V		R22	1-216-099-00	METAL GLAZE 120K	5% 1/10W
C34	1-137-031-11	FILM 0.22MF	10%	100V	R24	1-216-089-00	METAL GLAZE 47K	5% 1/10W
C35	1-124-907-11	ELECT 10MF	20%	50V	R25	1-216-077-00	METAL GLAZE 15K	5% 1/10W
C36	1-163-119-00	CERAMIC CHIP 120PF	5%	50V				
C37	1-124-477-11	ELECT 47MF	20%	16V				
C38	1-124-477-11	ELECT 47MF	20%	16V				
C39	1-163-133-00	CERAMIC CHIP 470PF	5%	50V	RV1	1-238-016-11	RES, ADJ, CARBON 10K	
				RV2	1-238-019-11	RES, ADJ, CARBON 47K		
<FILTER>								
CDA1	1-404-751-11	DISCRIMINATOR, CERAMIC					MISCELLANEOUS	
CDA2	1-404-750-11	DISCRIMINATOR, CERAMIC					*****	
SFT1	1-527-840-00	FILTER, CERAMIC						
SFT2	1-527-839-00	FILTER, CERAMIC						
<DIODE>								
D3	8-719-400-18	DIODE MA152WK						
<IC>								
IC1	8-759-003-90	IC TBA129						
IC2	8-759-003-90	IC TBA129						
IC3	8-759-030-48	IC TDA6600-2						
IC4	8-759-513-48	IC TDA2595/V9						
<CONNECTOR>								
IFG13	*1-565-488-11	CONNECTOR, BOARD TO BOARD 12P						
<COIL>								
L1	1-408-410-00	INDUCTOR 12UH						
L2	1-408-410-00	INDUCTOR 12UH						
L3	1-410-064-11	INDUCTOR 2.7MH						
L4	1-408-421-00	INDUCTOR 100UH						
L5	1-408-421-00	INDUCTOR 100UH						
<TRANSISTOR>								
Q2	8-729-901-00	TRANSISTOR DTC124EK						
Q3	8-729-216-22	TRANSISTOR 2SA1162-G						
Q4	8-729-901-00	TRANSISTOR DTC124EK						
<COIL>								
L1	1-408-410-00	INDUCTOR 12UH						
L2	1-408-410-00	INDUCTOR 12UH						
L3	1-410-064-11	INDUCTOR 2.7MH						
L4	1-408-421-00	INDUCTOR 100UH						
L5	1-408-421-00	INDUCTOR 100UH						
<ACCESSORIES AND PACKING MATERIALS>								

3-754-894-11		MANUAL, INSTRUCTION (GERMAN/ENGLISH/FRENCH/DUTCH/ITALIAN/PORTUGUESE)						
*4-031-068-01		CUSHION (UPPER) (ASSY) (KV-A2121D)						
*4-031-069-01		CUSHION (LOWER) (ASSY) (KV-A2121D)						
*4-031-070-01		INDIVIDUAL CARTON (KV-A2121D)						
*4-030-989-01		CUSHION (UPPER) (ASSY) (KV-A2521D)						
*4-030-990-01		CUSHION (LOWER) (ASSY) (KV-A2521D)						
*4-201-015-03		INDIVIDUAL CARTON (KV-A2521D)						
*4-380-340-01		BAG, PROTECTION (KV-A2121D, A2521D)						
*4-031-996-01		CUSHION (UPPER) (ASSY) (KV-A2921D)						